Original Application

Metro Knoxville HMA, LLC, dba Tennova Healthcare, North Knoxville Medical Center

CN1801-001

North Knoxville Medical Center

Certificate of Need Application to Expand Existing Diagnostic Cardiac Catheterization Services to Include Therapeutic Cardiac Services

Name of Facility: Metro Knoxville HMA, LLC d/b/a
Tennova Healthcare – North Knoxville Medical Center
7565 Dannaher Drive
Powell, Tennessee 37849

Contact Person: Clyde Wood, CEO
Tennova Healthcare – North Knoxville Medical Center
7565 Dannaher Drive
Powell, Tennessee 37849

January 10, 2018

State of Tennessee
Health Services and Development Agency
Andrew Jackson Building, 9th Floor, 502 Deaderick Street, Nashville, TN 37243
www.tn.gov/hsda Phone: 615-741-2364 Fax: 615-741-9884

CERTIFICATE OF NEED APPLICATION

SECTION A: APPLICANT PROFILE

1. Name of Facility, Agency, or Institution

Metro Knoxville HMA, LLC d/b/a Tennova Healthcare North Knoxville Medical Center
Name

7565 Dannaher Drive — Knox
Street or Route — County

Powell — TN — 37849
City — State — Zip Code

Website address: www.tennova.com

*Note: The facility's name and address **must be** the name and address of the project and **must be** consistent with the Publication of Intent.*

2. Contact Person Available for Responses to Questions

Clyde Wood — CEO
Name — Title

Metro Knoxville HMA, LLC d/b/a
Tennova Healthcare North Knoxville Medical Center — Clyde.Wood@tennova.com
Company Name — Email address

7565 Dannaher Drive — Powell — TN — 37849
Street or Route — City — State — Zip Code

CEO — 862-632-5605 — 862-632-5630
Association with Owner — Phone Number — Fax Number

NOTE: ***Section A*** is intended to give the applicant an opportunity to describe the project. ***Section B*** addresses how the project relates to the criteria for a Certificate of Need by addressing: Need, Economic Feasibility, Contribution to the Orderly Development of Health Care, and Quality Measures.

Please answer all questions on ***8½" X 11" white paper, clearly typed and spaced, single or double-sided, in order and sequentially numbered. In answering, please type the question and the response.*** All questions must be answered. If an item does not apply, please indicate *"N/A" (not applicable).* ***Attach appropriate documentation as an Appendix at the end of the application and reference the applicable Item Number on the attachment, i.e., Attachment A.1, A.2, etc. The last page of the application should be a completed signed and notarized affidavit.***

3. SECTION A: EXECUTIVE SUMMARY

A. Overview

Please provide an overview not to exceed three pages in total explaining each numbered point.

1) Description – Address the establishment of a health care institution, initiation of health services, bed complement changes, and/or how this project relates to any other outstanding but unimplemented certificates of need held by the applicant;

RESPONSE: Tennova Healthcare – North Knoxville Medical Center is a licensed 108-bed general acute care hospital located in Powell, Knox County, Tennessee. North Knoxville Medical Center is a satellite location of Metro Knoxville HMA, LLC d/b/a Tennova Healthcare ("Tennova"). In Metropolitan ("metro") Knoxville, Tennova Healthcare provides inpatient care at three hospitals: Physicians Regional Medical Center ("Physicians Regional" or "PRMC"), North Knoxville Medical Center ("North Knoxville" or "NKMC") and Turkey Creek Medical Center ("Turkey Creek"). These three campuses operate under a single hospital license and Medicare provider number, and have a single, shared medical staff.

North Knoxville currently offers diagnostic cardiac catheterization ("cath") services in a single lab. The services are provided by physicians from the East Tennessee Heart Consultants ("ETHC") physician group, which is an employed 22-physician group comprised of interventional and diagnostic cardiologists with offices on all three metro Knoxville Tennova campuses, including NKMC. The inability of NKMC to provide therapeutic cath services means patients presenting to NKMC in need of this service must now be transferred to another facility, ultimately delaying needed treatment to restore blood flow to the patient's heart. Because "every second counts" and "time is muscle" for cardiac patients, these unnecessary delays in care result in less than optimal quality of care for patients who currently rely on and seek care at North Knoxville Medical Center.

NKMC transfers approximately 400 patients annually from its Emergency Department ("ED") and inpatient units who would benefit from the proposed modernization and upgrade of equipment in the existing cardiac cath lab to include therapeutic services. These patients, who are currently choosing to receive health care services at North Knoxville, must be transported to another facility because NKMC is not licensed to offer therapeutic cath services. Thus, not only would the provision of services at NKMC mean shorter time from onset of symptoms to restoration of blood flow for cardiac patients (which is a critical quality of care issue), but it would also mean that patients choosing to receive care at NKMC would be able to do so. In short, the hospital's cardiology patients in need of an interventional procedure would be better served by remaining at NKMC rather than undergoing a transport, which delays the start of therapeutic treatment and involves risks to the patient as well as unnecessary costs.

NKMC defines its therapeutic cardiac cath service area as Knox County (its home county) and the surrounding east Tennessee counties of: Anderson, Campbell, Claiborne, Cocke, Grainger, Hamblen, Jefferson, Scott, Sevier, and Union. This 11-county service area comprises approximately 96% of NKMC's inpatient admissions. In general, the outlying rural counties served by NKMC have higher heart disease death rates, lower per capita income, less education, and higher rates of uninsured than residents in Knox County or the state of Tennessee as a whole. Thus, the proposed provision of therapeutic cath services at NKMC will enhance access to care for a population in need.

North Knoxville's proposed therapeutic cath service will enhance access to care for all service area patients, including those who reside in outlying service area counties and must now travel into the congested downtown Knoxville area for therapeutic cath services. Moreover, once on the NKMC hospital campus, access and wayfinding to the cardiac cath services is much easier and more manageable for patients, including the elderly, than on the much larger and more congested campus of PRMC.

The provision of therapeutic cardiac cath services without on-site surgical backup is a safe and accepted treatment for patients in need when performed by experienced physicians. Low-risk patients with the need for a therapeutic cath during the same session in which the diagnostic cardiac cath is performed are optimally served by having the interventional procedure during the same session, rather than being forced to undergo a second cath procedure at a different location, and oftentimes at a later date (when not an emergent situation).

NKMC has on its staff and campus highly-qualified and trained interventional cardiologists who are capable of performing therapeutic procedures, and who already serve a significant number of therapeutic cath patients from the defined 11-county service area at Tennova's PRMC campus. NKMC has available capacity in its existing cardiac cath lab (currently utilized at less than 10%) while PRMC's cath services are highly utilized (151.5% for most recent 3-year period). Thus, the provision of therapeutic cath services at NKMC will significantly reduce the need for patients to be transported from NKMC to PRMC for therapeutic cath services, enhancing quality of care for patients and improving operational efficiencies for both NKMC and PRMC cardiac cath services. Notably, NKMC's project can be implemented with minimal costs and no construction or renovation. Moreover, there will be no bed complement changes resulting from the proposed project.

NKMC projects to reach the minimum threshold standard for a therapeutic program based solely on redirection of a small portion of existing patients of ETHC interventional cardiologists who are currently on staff and provide diagnostic cardiac caths at NKMC. Immediately upon approval of this project to upgrade and modernize NKMC's cardiac cath services, ETHC cardiologists will expand their presence on the NKMC hospital campus in order to provide service area residents with accessible interventional treatment.

2) Ownership structure;

RESPONSE: North Knoxville Medical Center, the site of the proposed Project, is a satellite location of Metro Knoxville HMA, LLC d/b/a Tennova Healthcare. As stated above, Tennova Healthcare provides acute care at three locations in the metro Knoxville area: Physicians Regional, North Knoxville Medical Center, and Turkey Creek. These three hospitals operate under a single state hospital license and one Medicare provider number, and share a single medical staff, including physicians in the East Tennessee Heart Consultants group.

3) Service area;

RESPONSE: The service area for the proposed addition of therapeutic cardiac catheterization services is an 11-county area which includes both the urban area of Knox County along with a number of rural communities. This 11-county area accounts for approximately 96% of the inpatients cared for at North Knoxville Medical Center. The service area in this application is consistent with NKMC's service area in prior applications, including for example, the hospital's diagnostic cardiac cath application (CN1211-056).

4) Existing similar service providers;

RESPONSE: The current utilization of existing cardiac catheterization providers in the 11-county service area is 123.2%, nearly double the 70% capacity threshold for a new service. According to the 2015 Joint Annual Reports ("JAR"), nine (9) hospitals in the service area currently provide cardiac catheterization services, including North Knoxville Medical Center. Of these 9 hospitals, North Knoxville and LeConte Medical Center are the only two providers with diagnostic-only cath services.

5) Project cost;

RESPONSE: The proposed addition of therapeutic cardiac cath services at North Knoxville requires a limited capital investment of $227,225. No renovation of existing facilities or new construction is needed to implement the therapeutic cath service. Rather, the modernization and upgrade of the existing cath lab requires only the purchase of an integrated precision guided therapy system with Phased Array IVUS and FFR to supplement the existing cath lab's equipment. Existing support areas (*e.g.*, pre- and post-procedure areas and patient registration) will be utilized for the therapeutic cath services, with no required renovation or expansion.

6) Funding;

RESPONSE: The project will be funded through cash reserves. (*See* the project funding letters provided in Attachment B-EconFeas-B.)

7) Financial Feasibility including when the proposal will realize a positive financial margin; and

RESPONSE: The proposed project will realize a positive financial margin in Project Year 1. As shown in the proforma, minimal project costs are required to implement the modernization and expansion of existing cardiac cath services at NKMC.

8) Staffing.

RESPONSE: The expansion of cardiac cath services to include therapeutic cath at NKMC will require limited additional staff in order to initiate the service. Both new and existing staff will be required to be on-call in order to enable the service to be available 24 hours per day, 7 days a week.

Some of the existing staff members will require training related to the care required for therapeutic patients. NKMC will work with its sister hospitals (PRMC and Turkey Creek) for existing staff members to receive the necessary training to care for therapeutic patients, including moving some clinical staff who are currently performing interventional cardiac caths from PRMC to NKMC to supplement staffing and provide training for current NKMC staff. When new staffing is needed, NKMC will utilize its proven methods of staff recruitment and retention to ensure adequate staffing for the cardiac cath service is in place.

Specific to physicians who will provide the service, NKMC already has on its staff interventional cardiologists with a part-time presence in the ETHC office on NKMC's hospital campus, who will expand their practices and services provided on NKMC's campus immediately upon approval of the proposed expansion project.

B. Rationale for Approval

A certificate of need can only be granted when a project is necessary to provide needed health care in the area to be served, can be economically accomplished and maintained, will provide health care that meets appropriate quality standards, and will contribute to the orderly development of adequate and effective health care in the service area. This section should provide rationale for each criterion using the data and information points provided in Section B. of this application. Please summarize in one page or less each of the criteria:

1) Need;

RESPONSE: The diagnostic-only cardiac cath service at NKMC has experienced limited volumes as service area emergent patients requiring interventional care and scheduled diagnostic patients with a likely need for a therapeutic cath receive their diagnostic and therapeutic cardiac caths at PRMC or Turkey Creek, the other two Knox County Tennova hospitals with the capability to provide interventional cardiac caths.

Currently, emergency medical services ("EMS") transport units oftentimes bypass NKMC with cardiac emergency patients likely in need of interventional services. That will no longer be the case once NKMC has the ability to perform therapeutic cath services in its existing diagnostic cardiac cath program, thus benefiting service area residents with quicker access to life-saving interventional treatment. For non-emergent patients, the ability of NKMC to provide therapeutic cath services in its existing diagnostic cardiac cath lab means that service area patients requiring a diagnostic cath will be more likely to utilize NKMC's program since, if needed, the patient will be able to receive interventional services during the same session rather than enduring a second session at another facility at a later date. Thus, both emergent and non-emergent patients will benefit from the proposed modernization and upgrade of NKMC's existing diagnostic cath services.

NKMC transfers approximately 400 ED and inpatients annually from its hospital who would benefit from the proposed interventional cardiac cath service. (This number excludes patients who are transferred from NKMC inpatient units for cardiovascular surgery; those patients would continue to be transferred to an open heart surgery ("OHS") provider.) The high number of patients who must be transported to another facility for therapeutic cath services reflects the reliance of service area patients on NKMC for inpatient, outpatient, and emergency services. Moreover, in general, the outlying rural counties served by NKMC have higher heart disease death rates, higher percentages of elderly (ages 65+), lower per capita income, less education, and higher rates of uninsured than residents in Knox County or the state of Tennessee as a whole. Thus, the proposed provision of therapeutic cath services at NKMC will enhance access to care for a population in need. As the provision of therapeutic cardiac caths without on-site OHS backup has become an accepted standard within the medical community, the ability to provide this care in a timelier manner and without the additional cost of transportation offers significant benefit to cardiac patients.

The inability of NKMC to offer therapeutic cath services in its existing diagnostic cardiac cath lab not only negatively impacts patient care (by delaying needed treatment) but also limits the ability of the cardiac cath service to operate at an optimal level, resulting in inefficiencies associated with a relatively low volume diagnostic-only provider. At the same time, PRMC's cath service is highly utilized. Patients from the 11-county service area must now navigate the large and congested PRMC campus in downtown Knoxville, which is often more difficult to reach compared to the easily-accessible NKMC campus.

Finally, the proposed Project requires a limited investment in additional equipment and no facility renovation or expansion that would require new construction.

2) Economic Feasibility;

RESPONSE: The proposed project requires minimal capital investment, minimal additional staffing, and no renovation or expansion of the hospital's existing cardiac cath lab and support areas. Moreover, the project involves the redirection of existing Tennova patients from an over-utilized cath lab (PRMC) to an under-utilized cath lab, both of which are operated by highly skilled and specially-trained Board Certified Interventional Cardiologists.

NKMC's proposed charges are consistent with its sister facilities (PRMC and Turkey Creek) and are commensurate with charges at existing providers in the service area. The project will be funded from cash on hand.

NKMC's conservatively projects that it will meet the minimum volume threshold levels (*i.e.*, 400 diagnostic and/or therapeutic cath cases per year by its third year of operation, with at least 75 of these cases per year including a therapeutic cath) by the end of Year 1 of its project, as existing PRMC cardiac cath outpatients from the 11-county service area are shifted to NKMC. The projected volume in Project Year 1 is consistent with NKMC's current volume of cardiac inpatients and ED patients transferred because they likely require an interventional cath procedure.

The reasonable volume projections support the financial performance of the cardiac cath program which is expected to have a positive bottom line in Project Year 1, resulting from additional procedure volume covering the current fixed costs plus all incremental costs.

3) Appropriate Quality Standards; and

RESPONSE: North Knoxville currently meets the quality standards necessary for the initiation of therapeutic cardiac cath services in its existing cardiac cath lab. NKMC is a Joint Commission-accredited hospital with a history of providing quality care to the community it serves. Notably, all of the ETHC interventional cardiologists who are currently providing diagnostic caths at NKMC and will offer therapeutic cath services upon approval of this Project are board-certified or board-eligible, consistent with the hospital's medical staff bylaws requirement for board certification of its medical staff members.

Moreover, NKMC is currently implementing a Chest Pain Center, with an expected completion date of June 2018. Similar to PRMC and Turkey Creek, North Knoxville will ensure its Chest Pain Center meets the criteria of the American College of Cardiology ("ACC") and the American Heart Association ("AHA"), providing highly specialized care devoted to treating patients with acute coronary syndrome. NKMC has established a Chest Pain Committee to oversee its cardiac patient services, including the planned Chest Pain Center accreditation for mid-year 2018. Some of the advantages of the proposed Chest Pain Center to NKMC patients will include the rapid identification of patients presenting with unstable angina (chest pain), decreased time to treatment for heart attack patients, and 24-hour care for chest pain treatment.

4) Orderly Development to adequate and effective health care.

RESPONSE: The proposed modernization and upgrade of NKMC's existing cardiac cath services will positively contribute to the orderly development of health care services in the service area by providing a needed, time-sensitive interventional treatment to service area residents who rely on NKMC for their care. The proposed project will have no adverse impact on any existing provider because the project is needed to better serve existing Tennova patients.

Moreover, NKMC has the infrastructure in place to cost-effectively and efficiently begin offering therapeutic cardiac cath services in its existing lab. Notably, among those services in place is the support of its medical staff members, particularly the East Tennessee Heart Consultant cardiologists with an office on NKMC campus. ETHC physicians and staff have led the way in bringing cardiac treatments and technology to East Tennessee for almost four decades.

ETHC's experienced team of heart doctors, given the approval to perform both diagnostic and therapeutic services on site at NKMC, will be able to provide NKMC cardiology patients with the full array of its expertise, including:

- Participation in national and global clinical trials that seek more effective treatments for heart disease.
- Minimally invasive techniques to unblock arteries and improve blood flow.
- Heart and vascular rehabilitation services that combine education, support and exercise therapy.
- Cardiovascular diagnosis and imaging technology to determine the type and extent of heart disease.
- Comprehensive heart failure care featuring the latest treatment options.
- Specialized diagnostic and treatment services for heart rhythm disorders.
- Heart Failure Care, utilizing advanced diagnostic technology to determine the cause and extent of heart failure.
- Chest Pain Treatment, rapidly identifying patients presenting with unstable angina (chest pain) to provide fast, state-of-the-art treatment to prevent heart attacks. The ETHC teams are trained and dedicated to providing 24-hour care for the treatment of chest pain.

C. Consent Calendar Justification

If Consent Calendar is requested, please provide the rationale for an expedited review.

A request for Consent Calendar must be in the form of a written communication to the Agency's Executive Director at the time the application is filed.

Not applicable.

4. SECTION A: PROJECT DETAILS

A. Owner of the Facility, Agency or Institution

Name		Phone Number
Metro Knoxville HMA, LLC d/b/a Tennova Healthcare		865-632-5600
Street or Route		**County**
200 East Blount Avenue, Suite 600		Knox
City	**State**	**Zip Code**
Knoxville	TN	37920

B. Type of Ownership of Control (Check One)

A.	Sole Proprietorship		F.	Government (State of TN or Political Subdivision)	
B.	Partnership		G.	Joint Venture	
C.	Limited Partnership		H.	Limited Liability Company	X
D.	Corporation (For Profit)		I.	Other (Specify)_____	
E.	Corporation (Not-for-Profit)				

Attach a copy of the partnership agreement, or corporate charter and certificate of corporate existence. Please provide documentation of the active status of the entity from the Tennessee Secretary of State's web-site at https://tnbear.tn.gov/ECommerce/FilingSearch.aspx. **Attachment Section A-4A.**

Describe *the existing or proposed ownership structure of the applicant, including an ownership structure organizational chart. Explain the corporate structure and the manner in which all entities of the ownership structure relate to the applicant. As applicable, identify the members of the ownership entity and each member's percentage of ownership, for those members with 5% ownership (direct or indirect) interest.*

5. Name of Management/Operating Entity (If Applicable)

Name		
Not Applicable		
Street or Route		**County**
City	**State**	**Zip Code**

Website address: _____

For new facilities or existing facilities *without a current management agreement, attach a copy of a draft management agreement that at least includes the anticipated scope of management services to be provided, the anticipated term of the agreement, and the anticipated management fee payment methodology and schedule. For facilities with existing management agreements, attach a copy of the fully executed final contract.* **Attachment Section A-5.**

6A. Legal Interest in the Site of the Institution (Check One)

A.	Ownership**	X	D.	Option to Lease	
B.	Option to Purchase		E.	Other (Specify)	
C.	Lease of ____ Years				

Check appropriate line above: *For applicants or applicant's parent company/owner that currently own the building/land for the project location, attach a copy of the title/deed. For applicants or applicant's parent company/owner that currently lease the building/land for the project location, attach a copy of the fully executed lease agreement. For projects where the location of the project has not been secured, attach a fully executed document including Option to Purchase Agreement, Option to Lease Agreement, or other appropriate documentation. Option to Purchase Agreements* ***must include*** *anticipated purchase price. Lease/Option to Lease Agreements* ***must include*** *the actual/anticipated term of the agreement* ***and*** *actual/anticipated lease expense. The legal interests described herein* ***must be valid*** on the date of the Agency's consideration of the certificate of need application.

*****Please see Attachment A-6A for the site entitlement.***

6B. Attach **a copy of the site's plot plan, floor plan, and if applicable, public transportation route to and from the site** on an 8 1/2" x 11" sheet of white paper, single or double-sided. ***DO NOT SUBMIT BLUEPRINTS***. Simple line drawings should be submitted and need not be drawn to scale.

1) Plot Plan **must include**:

   a. Size of site (***in acres***);

   b. Location of structure on the site;

   c. Location of the proposed construction/renovation; and

   d. Names of streets, roads or highway that cross or border the site.

RESPONSE: A copy of the plot plan of North Knoxville Medical Center's campus is included as Attachment A-6B.1.

2) Attach a floor plan drawing for the facility which includes legible labeling of patient care rooms (noting private or semi-private), ancillary areas, equipment areas, etc. On an 8 ½ by 11 sheet of paper or as many as necessary to illustrate the floor plan.

RESPONSE: A copy of the floor plan of North Knoxville Medical Center's existing cardiac catheterization lab is included as Attachment A-6B.2.

3) Describe the relationship of the site to public transportation routes, if any, and to any highway or major road developments in the area. Describe the accessibility of the proposed site to patients/clients.

RESPONSE: NKMC is located 0.2 miles from I-75, at the Emory Road exit, making it easily accessible by car to residents of the service area. Moreover, NKMC's location outside of the downtown, congested Knoxville area enhances accessibility to the proposed service for all service area residents.

Public transportation is available to Knox County residents through the Knox County Community Action Committee ("CAC") Transit. Knox County CAC Transit provides door-to-door transportation services for residents within the Knoxville/Knox County area that live outside the Knoxville Area Transit ("KAT") service area for essential needs such as medical appointments. (The KAT bus routes do not currently extend to the Emory Road area where NKMC is located.)

Residents outside of the Knoxville/Knox County area may be eligible for transportation services through East Tennessee Human Resource Agency ("ETHRA") Public Transit. ETHRA Public Transit is funded through the Tennessee Department of Transportation and has a service area that includes all of the 11 counties of North Knoxville Medical Center's service area.

Both services offer affordable fares. Some residents may have transit fare covered through TennCare.

Please refer to Attachment A-6B.3 for additional information regarding local and regional transit options available to patients of North Knoxville Medical Center.

Attachment Section A-6A, 6B-1 a-d, 6B-2, 6B-3.

7. Type of Institution (Check as appropriate--more than one response may apply)

A.	Hospital (Specify) Gen Med/Surg	X	H.	Nursing Home	
B.	Ambulatory Surgical Treatment Center (ASTC), Multi-Specialty		I.	Outpatient Diagnostic Center	
C.	ASTC, Single Specialty		J.	Rehabilitation Facility	
D.	Home Health Agency		K.	Residential Hospice	
E.	Hospice		L.	Nonresidential Substitution-Based Treatment Center for Opiate Addiction	
F.	Mental Health Hospital				
G.	Intellectual Disability Institutional Habilitation Facility ICF/IID		M.	Other (Specify)_____	

Check appropriate lines(s).

8. Purpose of Review (Check appropriate lines(s) – more than one response may apply)

A.	New Institution		F.	Change in Bed Complement [*Please note the type of change by underlining the appropriate response: Increase, Decrease, Designation, Distribution, Conversion, Relocation]*	
B.	Modifying an ASTC with limitation still required per CON				
C.	Addition of MRI Unit				
D.	Pediatric MRI				
E.	Initiation of Health Care Service as defined in T.C.A. §68-11-1607(4) (Specify) Expansion of Diagnostic Cardiac Cath Services to Include Therapeutic Cath	X	G.	Satellite Emergency Dept.	
			H.	Change of Location	
			I.	Other (Specify)_____	

9. Medicaid/TennCare, Medicare Participation

MCO Contracts [Check all that apply]

_X_AmeriGroup _X_United Healthcare Community Plan _X_BlueCare _X_TennCare Select

Medicare Provider Number *44-0120*

Medicaid Provider Number *44-0120*

Certification Type *Hospital*

RESPONSE: North Knoxville is a satellite location of Metro Knoxville HMA, LLC d/b/a Tennova Healthcare, which includes three hospitals: PRMC, NKMC, and Turkey Creek. All three campuses operate under a single hospital license and Medicare provider number, and have a single, shared medical staff.

Tennova Healthcare currently contracts through master provider agreements with each of the TennCare Managed Care Organizations ("MCO"). Tennova intends to continue participation in these plans; thus, NKMC's will continue participation in the plans as well.

If a new facility, will certification be sought for Medicare and/or Medicaid/TennCare?

Medicare __Yes __No __N/A Medicaid/TennCare __Yes __No __N/A

RESPONSE: *Not Applicable. North Knoxville Medical Center is an existing, licensed hospital.*

10. Bed Complement Data

A. Please indicate current and proposed distribution and certification of facility beds. **NKMC data is below.

**** Please see bed complement for Metro Knoxville HMA, LLC, d/b/a Tennova Healthcare in Attachment A-10A.**

	Current Licensed	Beds Staffed	Beds Proposed	*Beds Approved	**Beds Exempted	TOTAL Beds at Completion
1) Medical *(combined med/surg)*	96	72				96
2) Surgical						
3) ICU/CCU	12	11				12
4) Obstetrical						
5) NICU						
6) Pediatric						
7) Adult Psychiatric						
8) Geriatric Psychiatric						
9) Child/Adolescent Psychiatric						
10) Rehabilitation						
11) Adult Chemical Dependency						
12) Child/Adolescent Chemical Dependency						
13) Long-Term Care Hospital						
14) Swing Beds						
15) Nursing Home – SNF (Medicare only)						
16) Nursing Home – NF (Medicaid only)						
17) Nursing Home – SNF/NF (dually certified Medicare/Medicaid)						
18) Nursing Home – Licensed (non-certified)						
19) ICF/IID						
20) Residential Hospice						
TOTAL	108	83				108

**Beds approved but not yet in service* ***Beds exempted under 10% per 3 year provision*

B. Describe the reasons for change in bed allocations and describe the impact the bed change will have on the applicant facility's existing services.

Not Applicable. No changes in bed capacity or allocation are proposed as part of this project.

C. Please identify all the applicant's outstanding Certificate of Need projects that have a licensed bed change component. If applicable, complete chart below.

CON Number(s)	CON Expiration Date	Total Licensed Beds Approved
N/A		

11. **Home Health Care Organizations** – Home Health Agency, Hospice Agency (excluding Residential Hospice), identify the following by checking all that apply:

Not Applicable

	Existing Licensed County	Parent Office County	Proposed Licensed County		Existing Licensed County	Parent Office County	Proposed Licensed County
Anderson	☐	☐	☐	Lauderdale	☐	☐	☐
Bedford	☐	☐	☐	Lawrence	☐	☐	☐
Benton	☐	☐	☐	Lewis	☐	☐	☐
Bledsoe	☐	☐	☐	Lincoln	☐	☐	☐
Blount	☐	☐	☐	Loudon	☐	☐	☐
Bradley	☐	☐	☐	McMinn	☐	☐	☐
Campbell	☐	☐	☐	McNairy	☐	☐	☐
Cannon	☐	☐	☐	Macon	☐	☐	☐
Carroll	☐	☐	☐	Madison	☐	☐	☐
Carter	☐	☐	☐	Marion	☐	☐	☐
Cheatham	☐	☐	☐	Marshall	☐	☐	☐
Chester	☐	☐	☐	Maury	☐	☐	☐
Claiborne	☐	☐	☐	Meigs	☐	☐	☐
Clay	☐	☐	☐	Monroe	☐	☐	☐
Cocke	☐	☐	☐	Montgomery	☐	☐	☐
Coffee	☐	☐	☐	Moore	☐	☐	☐
Crockett	☐	☐	☐	Morgan	☐	☐	☐
Cumberland	☐	☐	☐	Obion	☐	☐	☐
Davidson	☐	☐	☐	Overton	☐	☐	☐
Decatur	☐	☐	☐	Perry	☐	☐	☐
DeKalb	☐	☐	☐	Pickett	☐	☐	☐
Dickson	☐	☐	☐	Polk	☐	☐	☐
Dyer	☐	☐	☐	Putnam	☐	☐	☐
Fayette	☐	☐	☐	Rhea	☐	☐	☐
Fentress	☐	☐	☐	Roane	☐	☐	☐
Franklin	☐	☐	☐	Robertson	☐	☐	☐
Gibson	☐	☐	☐	Rutherford	☐	☐	☐
Giles	☐	☐	☐	Scott	☐	☐	☐
Grainger	☐	☐	☐	Sequatchie	☐	☐	☐
Greene	☐	☐	☐	Sevier	☐	☐	☐
Grundy	☐	☐	☐	Shelby	☐	☐	☐
Hamblen	☐	☐	☐	Smith	☐	☐	☐
Hamilton	☐	☐	☐	Stewart	☐	☐	☐
Hancock	☐	☐	☐	Sullivan	☐	☐	☐
Hardeman	☐	☐	☐	Sumner	☐	☐	☐
Hardin	☐	☐	☐	Tipton	☐	☐	☐
Hawkins	☐	☐	☐	Trousdale	☐	☐	☐
Haywood	☐	☐	☐	Unicoi	☐	☐	☐
Henderson	☐	☐	☐	Union	☐	☐	☐
Henry	☐	☐	☐	Van Buren	☐	☐	☐
Hickman	☐	☐	☐	Warren	☐	☐	☐
Houston	☐	☐	☐	Washington	☐	☐	☐
Humphreys	☐	☐	☐	Wayne	☐	☐	☐
Jackson	☐	☐	☐	Weakley	☐	☐	☐
Jefferson	☐	☐	☐	White	☐	☐	☐
Johnson	☐	☐	☐	Williamson	☐	☐	☐
Knox	☐	☐	☐	Wilson	☐	☐	☐
Lake	☐	☐	☐				

12. Square Footage and Cost Per Square Footage Chart – *Not Applicable*

Unit/Department	Existing Location	Existing SF	Temporary Location	Proposed Final Location	Proposed Final Square Footage		
					Renovated	New	Total
Unit/Department GSF Sub-Total							
Other GSF Total							
Total GSF							
*Total Cost							
**Cost Per Square Foot							
Cost per Square Foot Is Within Which Range *(For quartile ranges, please refer to the Applicant's Toolbox on www.tn.gov/hsda)*					☐ Below 1st Quartile ☐ Between 1st and 2nd Quartile ☐ Between 2nd and 3rd Quartile ☐ Above 3rd Quartile	☐ Below 1st Quartile ☐ Between 1st and 2nd Quartile ☐ Between 2nd and 3rd Quartile ☐ Above 3rd Quartile	☐ Below 1st Quartile ☐ Between 1st and 2nd Quartile ☐ Between 2nd and 3rd Quartile ☐ Above 3rd Quartile

RESPONSE: ***Not Applicable*. The proposed project does not include any renovation or new construction.**

* The Total Construction Cost should equal the Construction Cost reported on line A5 of the Project Cost Chart.

** Cost per Square Foot is the construction cost divided by the square feet. Please do not include contingency costs.

13. MRI, PET, and/or Linear Accelerator – *Not Applicable*

1. Describe the acquisition of any Magnetic Resonance Imaging (MRI) scanner that is adding a MRI scanner in counties with population less than 250,000 or initiation of pediatric MRI in counties with population greater than 250,000 and/or
2. Describe the acquisition of any Positron Emission Tomographer (PET) or Linear Accelerator if initiating the service by responding to the following:

A. Complete the chart below for acquired equipment.

☐ Linear Accelerator	Mev _____ Types: ☐ SRS ☐ IMRT ☐ IGRT ☐ Other _____ Total Cost*: _____ ☐ New ☐ Refurbished	☐ By Purchase ☐ By Lease Expected Useful Life (yrs) ___ ☐ If not new, how old? (yrs) _____
☐ MRI	Tesla: ____ Magnet: ☐ Breast ☐ Extremity ☐ Open ☐ Short Bore ☐ Other _____ Total Cost*: _____ ☐ New ☐ Refurbished	☐ By Purchase ☐ By Lease Expected Useful Life (yrs) ___ ☐ If not new, how old? (yrs) _____
☐ PET	☐ PET only ☐ PET/CT ☐ PET/MRI Total Cost*: _____ ☐ New ☐ Refurbished	☐ By Purchase ☐ By Lease Expected Useful Life (yrs) ☐ If not new, how old? (yrs)

* As defined by Agency Rule 0720-9-.01(13)

B. In the case of equipment purchase, include a quote and/or proposal from an equipment vendor. In the case of equipment lease, provide a draft lease or contract that at least includes the term of the lease and the anticipated lease payments along with the fair market value of the equipment.

C. Compare lease cost of the equipment to its fair market value. Note: Per Agency Rule, the higher cost must be identified in the project cost chart.

D. Schedule of Operations:

Location	Days of Operation (*Sunday through Saturday*)	Hours of Operation (*example: 8 am – 3 pm*)
Fixed Site *(Applicant)*		
Mobile Locations *(Applicant)*		
(Name of Other Location)		
(Name of Other Location)		

E. Identify the clinical applications to be provided that apply to the project.

F. If the equipment has been approved by the FDA within the last five years provide documentation of the same.

SECTION B: GENERAL CRITERIA FOR CERTIFICATE OF NEED

In accordance with T.C.A. § 68-11-1609(b), "no Certificate of Need shall be granted unless the action proposed in the application for such Certificate is necessary to provide needed health care in the area to be served, can be economically accomplished and maintained, will provide health care that meets appropriate quality standards, and will contribute to the orderly development of health care." Further standards for guidance are provided in the State Health Plan developed pursuant to T.C.A. § 68-11-1625.

The following questions are listed according to the four criteria: (1) Need, (2) Economic Feasibility, (3) Applicable Quality Standards, and (4) Contribution to the Orderly Development of Health Care. Please respond to each question and provide underlying assumptions, data sources, and methodologies when appropriate. *Please type each question and its response on an 8 1/2" x 11" white paper, single-sided or double sided*. All exhibits and tables must be attached to the end of the application in correct sequence identifying the question(s) to which they refer, unless specified otherwise. ***If a question does not apply to your project, indicate "Not Applicable (NA)."***

QUESTIONS

SECTION B: NEED

A. **Provide a response to each criterion and standard in Certificate of Need Categories in the State Health Plan that are applicable to the proposed project. Criteria and standards can be obtained from the Tennessee Health Services and Development Agency or found on the Agency's website at http://www.tn.gov/hsda/article/hsda-criteria-and-standards.**

Standards and Criteria
Regarding Certificate of Need Applications for All Cardiac Catheterization Services

Applicants proposing to provide any type of cardiac catheterization services must meet the following minimum standards:

1. Compliance with Standards: The Division of Health Planning is working with stakeholders to develop a framework for greater accountability to these Standards and Criteria. Applicants should indicate whether they intend to collaborate with the Division and other stakeholders on this matter.

RESPONSE: NKMC will continue to maintain compliance with the Standards and Criteria for Cardiac Catheterization Services. NKMC intends to continue to collaborate with the Division and other stakeholders as a framework for greater accountability is developed.

2. Facility Accreditation: If the applicant is not required by law to be licensed by the Department of Health, the applicant should provide documentation that the facility is fully accredited or will pursue accreditation by the Joint Commission or another appropriate accrediting authority recognized by the Centers for Medicare and Medicaid Services (CMS).

RESPONSE: NKMC is fully accredited by the Joint Commission and is licensed and in good standing with the Tennessee Department of Health. Documentation regarding the status of NKMC's licensure and accreditation is located in Attachment B-Need-A.2.

3. Emergency Transfer Plan: Applicants for cardiac catheterization services located in a facility without open heart surgery capability should provide a formalized written protocol for immediate and efficient transfer of patients to a nearby open heart surgical facility (within 60 minutes) that is reviewed/tested on a regular (quarterly) basis.

RESPONSE: NKMC has in place an emergency transfer plan with Physicians Regional Medical Center and Turkey Creek, both which are part of Tennova Healthcare and have open heart surgery capability. A copy of the transfer protocol is included in Attachment B-Need-A.3.

4. Quality Control and Monitoring: Applicants should document a plan to monitor the quality of its cardiac catheterization program, including, but not limited to, program outcomes and efficiency. In addition, the applicant should agree to cooperate with quality enhancement efforts sponsored or endorsed by the State of Tennessee, which may be developed per Policy Recommendation 2.

RESPONSE: Tennova Healthcare maintains a comprehensive quality program that encompasses patient outcomes and patient safety, performance comparisons to regional and national benchmarks, and operational efficiency goals. Documentation of Tennova Healthcare's quality program is located in Attachment B-Need-A.4.

Additionally, NKMC will cooperate with quality enhancement efforts sponsored or endorsed by the State of Tennessee.

5. Data Requirements: Applicants should agree to provide the Department of Health and/or the Health Services and Development Agency with all reasonably requested information and statistical data related to the operation and provision of services and to report that data in the time and format requested. As a standard of practice, existing data reporting streams will be relied upon and adapted over time to collect all needed information.

RESPONSE: North Knoxville will provide all reasonably requested information and statistical data related to the operation and provision of services to the Department of Health and/or the Health Services and Development Agency ("HSDA") in a timely manner as requested. As an existing provider, Tennova Healthcare, including NKMC, currently provides information and statistical data to the Department of Health and HSDA in formats that include the JARs submitted by each Tennova hospital.

6. Clinical and Physical Environment Guidelines: Applicants should agree to document ongoing compliance with the latest clinical guidelines of the American College of Cardiology/Society for Cardiac Angiography and Interventions Clinical Expert Consensus Document on Cardiac Catheterization Laboratory Standards (ACC Guidelines). As of the adoption of these Standards and Criteria, the latest version (2001) may be found online at: http://www.acc.org/qualityandscience/clinical/consensus/angiography/dirIndex.htm.

Where providers are not in compliance, they should maintain appropriate documentation stating the reasons for noncompliance and the steps the provider is taking to ensure quality. These guidelines include, but are not limited to, physical facility requirements, staffing, training, quality assurance, patient safety, screening patients for appropriate settings, and linkages with supporting emergency services.

RESPONSE: NKMC will comply with the latest ACC clinical guidelines, and document its ongoing compliance. Tennova Healthcare currently offers cardiac cath services in the Knoxville area at three facilities (PRMC, NKMC, and Turkey Creek), all of which comply with these standards.

The knowledge and expertise of Tennova's two providers of therapeutic cardiac cath services (PRMC and Turkey Creek) will enable NKMC to quickly and efficiently adapt to the additional responsibilities associated with the provision of interventional cardiac cath services in its existing diagnostic cath lab. A shared medical staff with experienced cardiologists, proven training programs, existing quality assurance efforts, established approaches to patient screening and safety, and relationships with emergency service providers will enable North Knoxville to develop its new interventional cardiac cath program on a solid foundation.

7. Staffing Recruitment and Retention: The applicant should generally describe how it intends to maintain an adequate staff to operate the proposed service, including, but not limited to, any plans to partner with an existing provider for training and staff sharing.

RESPONSE: As an initial matter, it should be noted that minimal additional staff is needed to implement the proposed modernization and expansion of existing diagnostic cath services to include therapeutic cath services. Both new and existing staff will be required to be on-call in order to enable the service to be available 24 hours per day, 7 days a week.

Some of the existing staff members will require training related to the care required for therapeutic patients. NKMC will work with its sister hospitals (PRMC and Turkey Creek) for existing staff members to receive the necessary training to care for therapeutic patients, including moving some clinical staff who are currently performing interventional cardiac caths from PRMC to NKMC to supplement staffing and provide training for current NKMC staff.

Specific to physicians who will provide the service, NKMC already has on its staff interventional cardiologists with a part-time presence in the ETHC office on NKMC's hospital campus who will expand their presence on NKMC's campus immediately upon approval of the proposed expansion project.

When new staffing is needed, NKMC will utilize its proven methods of staff recruitment and retention to ensure adequate staffing for the cardiac cath service is in place. For example, Tennova has a robust and long-standing recruiting process with a demonstrated track record of hiring staff, including use of healthcare program affiliations and national online recruitment, among other means. As a statewide healthcare network, Tennova also has the ability to recruit across a wide geographic region and offer relocation opportunities for staff interested in moving to the Knoxville area.

Tennova Healthcare's retention tools include a comprehensive array of benefits that include medical, dental and vision insurance coverage, life and disability insurance benefits, tuition reimbursement and a 401K retirement plan. As a provider with multiple hospitals in the Knoxville area, Tennova also has the ability to provide career growth opportunities that might not exist at a smaller, single-site institution. Thus, as demonstrated, staffing recruitment and retention for the proposed service expansion will not be a problem for NKMC.

8. Definition of Need for New Services: A need likely exists for new or additional cardiac catheterization services in a proposed service area if the average current utilization for all existing and approved providers is equal to or greater than 70% of capacity (i.e., 70% of 2000 cases) for the proposed service area.

RESPONSE: The 11-county service area aggregate 3-year utilization for all existing and approved providers is 123.2%, which is significantly greater than 70% utilization threshold indicating that need exists in the service area. Please refer to Attachment B-Need-A.8 for Cardiac Cath Calculations from the Tennessee Department of Health, Division of Policy, Planning and Assessment for details.

9. Proposed Service Areas with No Existing Service: In proposed service areas where no existing cardiac catheterization service exists, the applicant must show the data and methodology used to estimate the need and demand for the service. Projected need and demand will be measured for applicants proposing to provide services to residents of those areas as follows:

Need. The projected need for a service will be demonstrated through need-based epidemiological evidence of the incidence and prevalence of conditions for which diagnostic and/or therapeutic catheterization is appropriate within the proposed service area.

Demand. The projected demand for the service shall be determined by the following formula:

A. Multiply the age group-specific historical state utilization rate by the number of residents in each age category for each county included in the proposed service area to produce the projected demand for each age category;

B. Add each age group's projected demand to determine the total projected demand for cardiac catheterization procedures for the entire proposed service area.

RESPONSE: Not applicable. NKMC serves patients from an 11-county service area, with existing cardiac cath services that are highly utilized (123.2% aggregate).

10. Access: In light of Rule 0720-4-.01 (1), which lists the factors concerning need on which an application may be evaluated, the HSDA may decide to give special consideration to an applicant:

a. Who is offering the service in a medically underserved area as designated by the United States Health Resources and Services Administration;

b. Who documents that the service area population experiences a prevalence, incidence and/or mortality from heart and cardiovascular diseases or other clinical conditions applicable to cardiac catheterization services that is substantially higher than the State of Tennessee average;

c. Who is a "safety net hospital" as defined by the Bureau of TennCare Essential Access Hospital payment program; or

d. Who provides a written commitment of intention to contract with at least one TennCare MCO and, if providing adult services, to participate in the Medicare program.

RESPONSE: NKMC serves an 11-county area that is comprised of medically underserved areas, many of which have higher mortality rates from heart and cardiovascular diseases compared to the State of Tennessee as a whole. Additionally, NKMC currently contracts with four (4) Tenncare MCOs (AmeriGroup, United Healthcare Community Plan, BlueCare, and TennCare Select) and participates in the Medicare program.

Details follow.

Service Area is Comprised of Medically Underserved Areas

Much of NKMC's service area population resides in Medically Underserved Areas ("MUA"), as designated by the United States Health Resources and Services Administration ("HRSA"). In fact, all 11 counties are currently designated in whole or in part as Medically Underserved, which is based in part on a lack of access to primary care health services.

The following table provides the index score for service area MUAs. The index is based on four criteria: population-to-provider ratio, percent of the population below the federal poverty level, percent of the population over age 65, and the infant mortality rate. Areas with an *index of 62.0 or less qualify for a MUA designation.* As shown below, many communities in the 11-county service area have HRSA index scores well below the 62.0 threshold.

Moreover, many of these areas have been designated as MUAs for decades, confirming that enhancing access to timely care is the best approach to increase the health status of the residents in these communities. NKMC currently serves the residents of these communities, and the proposed modernization and expansion of its diagnostic cardiac cath services will allow the hospital to further its current efforts to meet the needs of these communities.

Table 1
Medically Underserved Areas
By County and HRSA Service Area

County	HRSA Service Area Name	Index Score	Year Designated
Knox County:			
Knox	Knox Service Area – 03246	53.60	1982
Knox	Knox Service Area – 03247	53.60	1982
Knox	Knox Service Area – 03263	57.63	1994
Other Service Area Counties:			
Anderson	Anderson Service Area	60.50	1984
Campbell	Campbell Service Area	41.40	1978
Claiborne	Claiborne County	61.60	1978
Cocke	Cocke County	53.80	1978
Grainger	Grainger County	52.60	1978
Hamblen	Whitesburg Service Area	61.30	1994
Jefferson	Chestnut Hill Division Service Area	59.90	1984
Scott	Scott Service Area	41.50	1978
Scott	Scott County	57.00	2015
Sevier	Dunn Creek Division	45.60	1994
Union	Union Service Area	56.20	1978

Source: Health Resources & Services Administration Data Warehouse.
Notes:
Index score applies to the entire Medically Underserved Area, on a scale from 0 (highest need) to 100 (lowest need).
Year designated is when the MUA was originally designated as a needy area.

Service Area Population Experiences Higher Heart Disease Death Rates than Tennessee

As shown in the table below, the vast majority of service area counties (8 out of 11, or 73%) have higher heart disease death rates than the state as a whole. Of those counties with higher death rates, Campbell, Claiborne, and Cocke Counties have significantly higher heart disease death rates than Tennessee as a whole. As shown below, the service area as a whole has a higher heart disease death rate than Tennessee.

Table 2
Diseases of the Heart
Deaths and Rates per 100,000 Population, 2016

County	Deaths	Rate
Knox	922	202.1
Anderson	189	248.9
Campbell	138	347.5
Claiborne	123	387.1
Cocke	176	499.8
Grainger	61	264.1
Hamblen	161	252.4
Jefferson	160	298.9
Scott	42	191.5
Sevier	234	242.1
Union	41	214.3
Total Service Area	**2,247**	**245.1**
State of Tennessee	**15,434**	**232.1**

Sources & Notes: TN Department of Health, Division of Policy, Planning and Assessment. Tennessee Resident Data.

In addition to having higher heart disease death rates than Tennessee as a whole, the outlying rural counties served by NKMC generally also have lower per capita income, less education, and higher rates of uninsured than residents in Knox County or the state of Tennessee as a whole. For comparative purposes only, the U.S. average is provided in the following table.

Table 3
Demographic Overview by Service Area County
Supports Special Consideration of Need by HSDA

County	Bachelor's Degree or Higher (1)	Persons with a Disability (2)	Persons without Health Insurance (3)	Per Capita Income (4)
Knox	35.7%	9.3%	10.8%	$28,980
Anderson	24.0%	14.0%	10.2%	$26,072
Campbell	10.6%	18.4%	12.6%	$19,948
Claiborne	13.2%	15.5%	12.3%	$19,215
Cocke	10.2%	17.7%	11.7%	$18,959
Grainger	11.6%	17.9%	13.0%	$19,850
Hamblen	16.0%	13.8%	14.4%	$20,642
Jefferson	15.6%	14.6%	12.1%	$22,674
Scott	8.9%	18.8%	12.4%	$21,011
Sevier	17.5%	13.4%	16.7%	$22,773
Union	10.0%	14.4%	15.3%	$19,030
State of Tennessee	**25.4%**	**11.2%**	**10.6%**	**$26,019**
United States	**30.3%**	**8.6%**	**10.1%**	**$29,829**

Source: United States Census Bureau, American Community Survey (ACS), 5-Year Estimates and 2015 Small Area Health Insurance Estimates (SAHIE).
Notes:
(1) Percent of Persons Age 25+, 2012-2016.
(2) Percent under Age 65 Years, 2012-2016.
(3) Percent under Age 65 Years, 2015 Estimate.
(4) Per Capita Income in the Past Twelve Months, 2016 dollars, 2012-2016.

Specific Standards and Criteria for the Provision of Diagnostic Cardiac Catheterization Service Only:

If an applicant does not intend to provide therapeutic cardiac catheterization services, the HSDA should place a condition on the resulting CON limiting the applicant to providing diagnostic cardiac catheterization services only. *Applicants proposing to provide only diagnostic cardiac catheterization services should meet the following minimum standards*:

11. Minimum Volume Standard: Such applicants should demonstrate that the proposed service utilization will be a minimum of 300 diagnostic cardiac catheterization cases per year by its third year of operation. Annual volume shall be measured based upon a two-year average which shall begin at the conclusion of the applicant's first year of operation. If the applicant is proposing services in a rural area where the HSDA determines that access to diagnostic cardiac catheterization services has been limited, and if the applicant is pursuing a partnership with a tertiary facility to share and train staff, the Agency may determine that a minimum volume of 200 cases per year is acceptable. Only cases including diagnostic cardiac catheterization procedures as defined by these Standards and Criteria may count towards meeting this minimum volume standard.

RESPONSE: Not Applicable. NKMC is an existing provider of diagnostic cardiac cath services and is applying for the expansion of these services to include therapeutic cardiac cath services.

12. High Risk/Unstable Patients: Such applicants should (a) delineate the steps, based on the ACC Guidelines, that will be taken to ensure that high-risk or unstable patients are not catheterized in the facility, and (b) certify that therapeutic cardiac catheterization services will not be performed in the facility unless and until the applicant has received Certificate of Need approval to provide therapeutic cardiac catheterization services.

RESPONSE: Not Applicable. NKMC is an existing provider of diagnostic cardiac cath services and is applying for the expansion of these services to include therapeutic cardiac cath services.

13. Minimum Physician Requirements to Initiate a New Service: The initiation of a new diagnostic cardiac catheterization program should require at least one cardiologist who performed an average of 75 diagnostic cardiac catheterization procedures over the most recent five year period. All participating cardiologists in the proposed program should be board certified or board eligible in cardiology and any relevant cardiac subspecialties.

RESPONSE: Not Applicable. NKMC is an existing provider of diagnostic cardiac cath services and is applying for the expansion of these services to include therapeutic cardiac cath services.

Specific Standards and Criteria for the Provision of Therapeutic Cardiac Catheterization Services

Applicants proposing to provide therapeutic cardiac catheterization services must meet the following minimum standards:

14. Minimum Volume Standard: Such applicants should demonstrate that the proposed service utilization will be a minimum of 400 diagnostic and/or therapeutic cardiac catheterization cases per year by its third year of operation. At least 75 of these cases per year should include a therapeutic cardiac catheterization procedure. Annual volume shall be measured based upon a two-year average which shall begin at the conclusion of the applicant's first year of operation. Only cases including diagnostic and therapeutic cardiac catheterization procedures as defined by these Standards and Criteria shall count towards meeting this minimum volume standard.

RESPONSE: North Knoxville Medical Center anticipates meeting the established requirement of 400 diagnostic and/or therapeutic cardiac catheterization cases per year by the third year of operation of the expanded cardiac cath service at the hospital, including at least 75 therapeutic cardiac caths, by the end of Project Year 1.

NKMC transfers approximately 400 patients annually from its ED and inpatient units because those patients likely need a therapeutic (interventional) cardiac cath procedure. These patients, who are currently choosing to receive health care services at North Knoxville, must be transported to another facility because NKMC is not licensed to offer therapeutic cath services. The inability of NKMC to provide therapeutic cath services ultimately delays these patients receiving needed treatment to restore blood flow to their heart. Because "every second counts" and "time is muscle" for cardiac patients, these unnecessary delays in care result in less than optimal quality of care for patients who currently rely on and seek care at North Knoxville Medical Center.

At the same time that NKMC is transferring a significant number of patients annually, NKMC has on its staff and campus highly-qualified and trained interventional cardiologists who are capable of performing therapeutic procedures, and who already serve a significant number of therapeutic cath patients from the hospital's 11-county service area at Tennova's PRMC campus. As stated previously, ETHC interventional cardiologists currently providing diagnostic caths and with office hours on the NKMC campus will expand their presence on the NKMC campus upon approval for NKMC to begin providing therapeutic (interventional) services in its existing cath lab.

NKMC projects to reach the minimum threshold standard by the end of Project Year 1 based solely on shifting a small portion of existing Tennova Healthcare service area patients now cared for by ETHC cardiologists at PRMC to NKMC, as shown below. Notably, the projected volume in Project Year 1 is consistent with NKMC's annual volume of cardiac inpatients and ED patients currently transferred because they likely require an interventional cath procedure.

Each step in the process to project NKMC volumes in Project Years 1 and 2 follow.

Step 1:
Determine the ETHC interventional cardiologists' current outpatient cardiac cath volume at PRMC for residents from the 11-county area.

Table 4
ETHC Physicians' Cardiac Cath Outpatients at PRMC from NKMC Service Area Counties, CY2017*

Service Area County	Diagnostic Cardiac Cath	Therapeutic Cardiac Cath	Total	Percent of Total
Anderson	39	13	52	4.7%
Campbell	41	16	57	5.2%
Claiborne	36	29	65	5.9%
Cocke	68	22	90	8.2%
Grainger	20	4	24	2.2%
Hamblen	26	10	36	3.3%
Jefferson	87	36	123	11.2%
Knox	367	171	538	49.1%
Scott	9	5	14	1.3%
Sevier	29	9	38	3.5%
Union	40	19	59	5.4%
Total	**762**	**334**	**1,096**	**100.0%**
% of Total Caths	70%	30%	100%	

Source & Notes:
Tennova Healthcare internal data available for January 1 through December 19, 2017. For ease of review, data referenced as CY2017.
*The physicians included in the analyses are ETHC interventional cardiologists with an office-based presence on the NKMC campus and who currently provide diagnostic caths at NKMC, including Drs. Yasir Akhtar, Fahd Chaudhry, David Cox, Osareme Irivbogbe, Barry Michelson, and Charles Treasure.

Please note that only PRMC outpatients were considered in the redirection scenarios. Forecasts conservatively do not include any shifting of PRMC inpatients to NKMC due to the high level of inpatient services generally provided at PRMC, and the need for NKMC to provide therapeutic caths to 'lower-risk' patients.

Step 2:
Estimate the service area cardiac cath patients at PRMC (currently cared for by ETHC interventional cardiologists performing cath procedures at NKMC) who would likely shift from PRMC to NKMC.

Table 5
NKMC Projected Cardiac Cath Volume,
Project Years 1 and 2

Calculations	**Year 1**	**Year 2**
Service Area Cardiac Cath Diagnostic Patients Expected to Shift from PRMC to NKMC (*% multiplied by CY17 volume in Table 4)*	40%	50%
Equals Projected Diagnostic Caths	305	381
Plus Therapeutic Caths	101	126
***Equals* Total Projected Cardiac Caths**	**406**	**507**
Therapeutic Caths as % of Total Caths	25%	25%

As reflected in the table above, NKMC reasonably projects that therapeutic cardiac caths will comprise approximately 25% of its total cardiac cath cases because NKMC will provide caths for low-risk cases at its hospital, while still transferring high-risk cases to a provider with on-site OHS backup. The reasonableness of this projection is further supported by the following:

- Approximately 39% of service area residents' total cardiac cath cases in CY2017 (inpatients and outpatients at all locations) performed by the identified ETHC interventional cardiologists were therapeutic, compared to the projected 25% therapeutic caths at NKMC. (*See* Table 6 below (Line 1), showing 1,119 therapeutic caths out of a total 2,903 total caths.)

- A higher percentage (30%) of the ETHC interventional cardiologists' service area outpatient caths performed at PRMC in CY2017 were therapeutic compared to the 25% therapeutic caths forecasted at NKMC. (*See* Table 4 above for CY17 distribution by type of procedure.)

- The expectation that approximately 25% of total caths will be therapeutic at a hospital offering therapeutic cath services without on-site OHS is consistent with the HSDA's findings in the approved projects for Chattanooga-Hamilton Hospital Authority d/b/a Erlanger East Hospital (CN1502-005) and Dyersburg Regional Medical Center (CN1403-007).

In total, NKMC's forecast is conservative because it assumes that only half of the identified ETHC interventional cardiologists' service area outpatients served will choose to receive care at NKMC rather than PRMC. Realistically, a larger percent of service area patients than forecasted in Project Years 1 and 2 will likely prefer to receive cardiac cath services closer to their homes in an easily accessible location outside of downtown Knoxville, on a more consumer-friendly campus than PRMC. Additionally, emergency medical services (ambulances) that currently bypass NKMC because it does not have therapeutic cardiac cath capabilities will no longer do so, resulting in increased patient volume above that considered in the redirection scenarios above.

Another reasonableness test regarding projected volume is to determine the percentage of the identified physicians' service area patients NKMC projects to shift from PRMC. To that end, the following table shows the total number of cardiac caths performed by Drs. Akhtar, Chaudhry, Cox, Irivbogbe, Michelson, and Treasure in CY2017 (through December 17th) on service area residents, regardless of the hospital campus at which the procedure was performed. As shown, the forecasted volume of redirected patients for these ETHC interventional cardiologists represents a small percentage of the physicians' total historical volume, further supporting NKMC's ability to meet the minimum volume standards for therapeutic cardiac cath services.

Table 6
Select Physicians' Projected Year 2 NKMC Volume as a % of the Physicians' Current Cath Volume (CY2017)

Calculations	Diagnostic Cardiac Cath	Therapeutic Cardiac Cath	Total Cardiac Caths
Select Physicians' Total Cardiac Caths provided to Service Area Residents, CY17*	1,784	1,119	2,903
Divided by Projected Year 2 Caths, NKMC (*see* prior analyses)	381	126	507
Equals % of Physicians' Total Service Area Caths provided at NKMC, Project Year 2	21.4%	11.3%	17.5%

Sources & Note:
Tennova Healthcare internal data available for January 1 through December 19, 2017.
*Includes service area inpatient and outpatient cardiac caths performed at the three Tennova Hospital campuses (PRMC, Turkey Creek, and NKMC) combined.

Finally, for ease of reference, the following table provides historical and projected volumes at NKMC.

Table 7
North Knoxville Medical Center: Historical & Projected Cardiac Cath Volumes

	Historical Volume			Projected Volume	
Type of Cath	**CY15**	**CY16**	**CY17**	**Year 1**	**Year 2**
Diagnostic	101	120	112	305	381
Therapeutic	0	0	0	101	126
Total Cases	**101**	**120**	**112**	**406**	**507**
Weighted Cases	101.0	120.0	112.0	507.0	633.0
Lab Utilization	**5.1%**	**6.0%**	**5.6%**	**25.4%**	**31.7%**

Please note that the slight decline between CY16 and CY17 at NKMC reflects the increasing difficulty of hospitals with diagnostic-only cardiac cath services to serve a significant number of patients, as physicians and patients prefer to receive care in a facility that can provide therapeutic (interventional) services when needed.

15. Open Heart Surgery Availability: Acute care facilities proposing to offer adult therapeutic cardiac catheterization services shall not be required to maintain an on-site open heart surgery program. Applicants without on-site open heart surgery should follow the most recent American College of Cardiology/American Heart Association/Society for Cardiac Angiography and Interventions Practice Guideline Update for Percutaneous Coronary Intervention (ACC/AHA/SCAI Guidelines). As of the adoption of these Standards and Criteria, the latest version of this document (2007) may be found online at: http://circ.ahajournals.org/cgi/reprint/CIRCULATIONAHA.107.185159

Therapeutic procedures should not be performed in freestanding cardiac catheterization laboratories, whether fixed or mobile. Mobile units may, however, perform therapeutic procedures provided the mobile unit is located on a hospital campus and the hospital has on-site open heart surgery. In addition, hospitals approved to perform therapeutic cardiac catheterizations without on-site open heart surgery backup may temporarily perform these procedures in a mobile laboratory on the hospital's campus during construction impacting the fixed laboratories.

RESPONSE: NKMC has in place an emergency transfer plan with Physicians Regional Medical Center and Turkey Creek, both which are part of Tennova Healthcare and have open heart surgery capability. A copy of the transfer protocol is included in Attachment B-Need-A.3.

NKMC will follow the most recent ACC/AHA/SCAI Guidelines as they relate to therapeutic cardiac cath providers without on-site open heart surgical services. As NKMC's existing cardiac cath services are hospital-based and within the walls of the existing licensed hospital, therapeutic procedures will not be performed either in a freestanding cardiac cath lab or a mobile cardiac cath unit.

16. Minimum Physician Requirements to Initiate a New Service: The initiation of a new therapeutic cardiac catheterization program should require at least two cardiologists with at least one cardiologist having performed an average of 75 therapeutic procedures over the most recent five year period. All participating cardiologists in the proposed program should be board certified or board eligible in cardiology and any relevant cardiac subspecialties.

RESPONSE: NKMC's proposed therapeutic cardiac cath service will be supported by experienced ETHC interventional cardiologists who are currently on the shared medical staff of Tennova Healthcare. The identified ETHC cardiologists are Board-certified or Board-eligible in Cardiovascular Disease and Interventional Cardiology, and perform a high volume of cardiac caths annually, far exceeding the minimum 75 annual therapeutic procedures.

Please refer to Attachment B-Need-A.16 for several ETHC physicians' curriculum vitae.

17. Staff and Service Availability: Ideally, therapeutic services should be available on an emergency basis 24 hours per day, 7 days per week through a staff call schedule (24/7 emergency coverage). In addition, all laboratory staff should be available within 30 minutes of the activation of the laboratory. If the applicant will not be able to immediately provide 24/7 emergency coverage, the applicant should present a plan for reaching 24/7 emergency coverage within three years of initiating the service or present a signed transfer agreement with another facility capable of treating transferred patients in a cardiac catheterization laboratory on a 24/7 basis within 90 minutes of the patient's arrival at the originating emergency department.

RESPONSE: North Knoxville Medical Center will ensure that staff are available on an emergency basis 24 hours per day, 7 days per week through the development of a staff call schedule. In addition, staff will be available within 30 minutes of the activation of the laboratory.

As part of Tennova Healthcare, NKMC will utilize the experience and expertise available from PRMC and Turkey Creek to developed policies and procedures to ensure timely and ongoing therapeutic services are available on an emergency basis.

18. Expansion of Services to Include Therapeutic Cardiac Catheterization: An applicant proposing the establishment of therapeutic cardiac catheterization services, who is already an existing provider of diagnostic catheterization services, should demonstrate that its diagnostic cardiac catheterization unit has been utilized for an average minimum of 300 cases per year for the two most recent years as reflected in the data supplied to and/or verified by the Department of Health.

RESPONSE: NKMC will be able to maintain the minimum diagnostic cardiac cath volume requirement as defined by the Department of Health, as demonstrated below and in the prior analyses.

NKMC initiated its diagnostic-only cardiac cath program in June 2015, and since that time has worked to establish its program. Though NKMC has not yet reached the average 300 cases per year diagnostic cath threshold, the ETHC cardiologists who will primarily be performing cardiac caths at NKMC perform well above 300 cases per year, ensuring proficiency in services to be provided at NKMC and supportive of the need for therapeutic cath services as well. Simply stated, the addition of therapeutic cath services to the existing lab along with the expanded presence of the identified six (6) ETHC cardiologists on NKMC's campus will enable NKMC to exceed the minimum 300 diagnostic cases annually.

Moreover, NKMC annually transfers more than 300 ED and inpatients from its facility who would benefit from the proposed expansion of diagnostic cardiac cath services to include therapeutic (interventional) services. Thus, clearly, NKMC's cardiac cath program expects to exceed this diagnostic cath threshold level in the future, as demonstrated by Project Year 1 volume forecasts.

***Please note* that the following cardiac cath standards are not applicable:**

- Specific Standards and Criteria for the Provision of Pediatric Cardiac Catheterization Services.
- Specific Standards and Criteria for the Offering of Mobile Cardiac Catheterization Services.

B. Describe the relationship of this project to the applicant facility's long-range development plans, if any, and how it relates to related previously approved projects of the applicant.

RESPONSE: The expansion of cardiac cath services at NKMC to include therapeutic cardiac cath services is a key component of the hospital's and Tennova Healthcare's long-range development plans. The approval of diagnostic cardiac cath services for North Knoxville (CN1211-056 with a project cost of approximately $4.3 million) was the initial step toward improving the cardiac health of the residents of the 11-county service area. The proposed expansion of that service with the addition of therapeutic cath is the next logical step toward providing timely and appropriate cardiac care to all service area patients in need.

C. Identify the proposed service area and justify the reasonableness of that proposed area. Submit a county level map for the Tennessee portion of the service area using the map on the following page, clearly marked to reflect the service area as it relates to meeting the requirements for CON criteria and standards that may apply to the project. Please include a discussion of the inclusion of counties in the border states, if applicable. Attachment Section B - Need-C.

Please complete the following tables, if applicable:

RESPONSE: The service area for the proposed project consists of an 11-county area accounting for approximately 96% of the inpatient discharges at North Knoxville Medical Center.

Table 8
NKMC Inpatient Origin, 2016

Service Area Counties	Historical Utilization-County Residents	% of total procedures (discharges)
Knox	2,169	51.9%
Anderson	521	12.5%
Campbell	353	8.4%
Union	317	7.6%
Scott	212	5.1%
Jefferson	117	2.8%
Cocke	94	2.2%
Claiborne	90	2.2%
Grainger	56	1.3%
Hamblen	41	1.0%
Sevier	38	0.9%
All Other	171	4.1%
Total	**4,179**	**100%**

Source: NKMC 2016 Joint Annual Report.

The following table forecasts NKMC's cardiac cath patient origin based on the current (CY2017) 11-county service area cardiac cath outpatient origin at PRMC for the identified ETCH interventional cardiologist who are currently providing diagnostic cardiac caths at NKMC and will increase their presence on NKMC's campus following initiation of the proposed expansion project. The current patient origin distribution for the identified physicians' service area cardiac cath outpatients was applied to Project Year 2 total projected patients to calculated expected allocation of patients by service area county. (*See* Tables 4 and 5 previously presented.)

Table 9
NKMC Cardiac Cath Services
Project Year 2 Patient Origin

Service Area County	Projected Year 2 Cases	Percent of Total
Knox	249	49.1%
Jefferson	57	11.2%
Cocke	42	8.2%
Claiborne	30	5.9%
Union	27	5.4%
Campbell	26	5.2%
Anderson	24	4.7%
Sevier	18	3.5%
Hamblen	17	3.3%
Grainger	11	2.2%
Scott	6	1.3%
Total	**507**	**100%**

Notes:
See Table 4 presented previously for distribution of identified physicians' service area cardiac cath outpatients expected to be redirected from PRMC to NKMC. That % of total patients was applied to Project Year 2 total projected patients to calculated expected allocation of patients by service area county.
Numbers may not sum exactly due to rounding.

TENNESSEE COUNTY MAP

D. 1). a) Describe the demographics of the population to be served by the proposal.

RESPONSE: The 11-county service area currently accounts for approximately 96% of the inpatients receiving care at NKMC. Of the 11 counties, the U.S. Census Bureau defines 8 of them as majority rural with 2 counties (Grainger and Union) as 100% rural, according to the County Rurality Level: 2010 County Rural Lookup Table.

The 11-county area includes nearly one million residents, and is projected to exceed the one million mark by the projected year 2022 timeframe. Knox County represents the greatest concentration of residents with 499,078 residents projected for 2022, approximately 50% of the population of the service area. Only one other county in the service area, Sevier County, has a resident population of over 100,000 by 2022.

The population of the service area is expected to grow by 4.0%, or 38,524 residents from 2018 to 2022. That growth rate approximates the 4.4% growth rate for the entire state of Tennessee during that same timeframe. The target population of adults (age 18+) for the service area is projected to grow 4.4% from 2018 to 2022, an increase of 33,443 residents. That growth rate also closely approximates the state of Tennessee's growth rate for adults (4.8%) during the same time period.

The service area population is generally older than the state average of 38.5, with many of the counties having an average age in the 40s. Only Knox County represents a generally younger population, with an average age of 37.3 years. Additionally, the service area percent of population ages 65+ (18.3% currently, growing to 20.2% in 2022) is higher than the overall state percentage of population ages 65+.

Considering the economic status of the residents of the service area, Knox County is the only county with a median household income greater than the state average of $46,574. In general, the outlying rural counties served by NKMC have higher heart disease death rates, lower per capita income, less education, and higher rates of uninsured than residents in Knox County or the state of Tennessee as a whole.

b) Using current and projected population data from the Department of Health, the most recent enrollee data from the Bureau of TennCare, and demographic information from the US Census Bureau, complete the following table and include data for each county in your proposed service area.

Projected Population Data: http://www.tn.gov/health/article/statistics-population

TennCare Enrollment Data: http://www.tn.gov/tenncare/topic/enrollment-data

Census Bureau Fact Finder: http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

RESPONSE: For the proposed initiation of therapeutic cardiac cath services at North Knoxville Medical Center, the Current Year is defined as 2018 and the Projected Year is defined as 2022. The Target Population is defined as the adult population (age 18+) of each county.

Demographic Variable/ Geographic Area	Department of Health/Health Statistics							Bureau of the Census				TennCare	
	Total Population-Current Year	Total Population-Projected Year	Total Population-% Change	*Target Population-Current Year	*Target Population-Project Year	*Target Population-% Change	Target Population Projected Year as % of Total	Median Age	Median Household Income	Person Below Poverty Level	Person Below Poverty Level as % of Total	TennCare Enrollees	TennCare Enrollees as % of Total Population
Knox County	477,780	499,078	4.5%	372,202	389,105	4.5%	78.0%	37.3	$50,366	67,508	14.8%	78,248	16.6%
Anderson County	78,387	79,730	1.7%	62,000	63,423	2.3%	79.5%	43.3	$44,241	10,935	14.4%	16,334	20.9%
Campbell County	41,654	42,438	1.9%	33,167	34,145	2.9%	80.5%	43.5	$33,628	9,571	24.1%	12,812	30.8%
Claiborne County	34,263	35,103	2.5%	27,727	28,785	3.8%	82.0%	42.3	$33,428	8,066	25.4%	9,157	26.9%
Cocke County	37,335	38,358	2.7%	29,961	31,006	3.5%	80.8%	44.5	$31,081	8,523	24.2%	11,444	30.8%
Grainger County	24,244	25,157	3.8%	19,320	20,225	4.7%	80.4%	44.2	$37,522	4,614	20.0%	6,020	25.0%
Hamblen County	66,195	67,853	2.5%	50,912	52,270	2.7%	77.0%	40.5	$39,270	11,800	18.5%	16,607	25.2%
Jefferson County	57,073	59,626	4.5%	45,484	47,944	5.4%	80.4%	42.7	$43,673	8,405	15.7%	12,609	22.4%
Scott County	23,058	23,383	1.4%	17,598	18,029	2.4%	77.1%	38.8	$30,897	4,828	22.0%	7,749	33.7%
Sevier County	104,829	112,052	6.9%	83,498	89,766	7.5%	80.1%	42.4	$42,586	14,598	15.1%	21,079	20.5%
Union County	20,124	20,688	2.8%	15,654	16,268	3.9%	78.6%	41.5	$38,540	4,249	22.2%	5,277	26.4%
Service Area Total	964,942	1,003,466	4.0%	757,523	790,966	4.4%	78.8%	N/A	N/A	153,097	16.7%	197,336	20.7%
State of TN Total	6,960,524	7,263,893	4.4%	5,367,165	5,624,053	4.8%	77.4%	38.5	$46,574	1,050,889	15.8%	1,461,291	21.2%

** Target Population is population that project will primarily serve. For example, nursing home, home health agency, hospice agency projects typically primarily serve the Age 65+ population; projects for child and adolescent psychiatric services will serve the Population Ages 0-19. Projected Year is defined in select service-specific criteria and standards. If Projected Year is not defined, default should be four years from current year, e.g., if Current Year is 2016, then default Projected Year is 2020.*

*Target Population is the adult population ages 18+.

Data in the table above has been collected from the following sources:

- Median Age is sourced from The United State Census Bureau's ACS Demographic and Housing Estimates, 2012-2016 American Community Survey 5-Year Estimates.
- Median Household Income, in 2016 dollars, sourced from U.S. Census Bureau, American Community Survey (ACS), 5-Year Estimates.
- Persons Below Poverty Level, % of Total Population, sourced from U.S. Census Bureau 2016 American Community Survey (ACS), 1 Year Estimates. Persons in Poverty calculated utilizing U.S. Census Bureau July 1, 2016 population estimates.
- TennCare Enrollee totals are sourced from the TennCare Enrollment Report for November 2017 and the TennCare Enrollees as a % of Total Population is calculated using the Current Year population from the Tennessee Department of Health (Population Projections, Tennessee Counties and the State, The University of Tennessee Center for Business and Economic Research Population Projection Data Files, Reassembled by the Tennessee Department of Health, Division of Policy, Planning and Assessment, 2017 Revised UTCBER Population Projection Series.

2) Describe the special needs of the service area population, including health disparities, the accessibility to consumers, particularly the elderly, women, racial and ethnic minorities, and low-income groups. Document how the business plans of the facility will take into consideration the special needs of the service area population.

RESPONSE: The demographic data in the table above provides evidence that the residents of the service area have a number of unique needs based on their age and general economic status. In general, as an older population with an overall higher level of poverty, the residents of the service area will require more health care services than a younger, healthier population.

The following table provides additional detail regarding the population ages 65+ in the service area counties.

Table 10
Service Area Population Ages 65+

			Growth 2018-2022		% of Total Pop	
County	**2018**	**2022**	**Number**	**Percent**	**2018**	**2022**
Knox	75,486	86,282	10,796	14.3%	15.8%	17.3%
Anderson	16,533	18,504	1,971	11.9%	21.1%	23.2%
Campbell	9,167	10,414	1,247	13.6%	22.0%	24.5%
Claiborne	7,321	8,412	1,091	14.9%	21.4%	24.0%
Cocke	8,368	9,663	1,295	15.5%	22.4%	25.2%
Grainger	5,340	6,231	891	16.7%	22.0%	24.8%
Hamblen	12,855	14,097	1,242	9.7%	19.4%	20.8%
Jefferson	12,359	14,358	1,999	16.2%	21.7%	24.1%
Scott	4,028	4,531	503	12.5%	17.5%	19.4%
Sevier	21,236	25,259	4,023	18.9%	20.3%	22.5%
Union	3,865	4,571	706	18.3%	19.2%	22.1%
Total	**176,558**	**202,322**	**25,764**	**14.6%**	18.3%	20.2%
Tennessee	1,175,938	1,362,320	186,382	15.8%	16.9%	18.8%

Source: The University of Tennessee Center for Business and Economic Research Population Projection Data Files, Reassembled by the Tennessee Department of Health, Division of Policy, Planning and Assessment. 2017 Revised UTCBER Population Projection Series.

With many of these residents living in rural communities, they are accessing care at NKMC which is generally a significant distance from their home. Having to transport these patient even further from home to another hospital for therapeutic cardiac cath services creates additional stress and challenges for both the patient and family members. The proposed initiation of therapeutic cath services at NKMC takes into account the special needs of the service area population and provides them with the most timely, efficient and effective approach to receiving interventional cardiac care at a hospital that they currently rely on for health care services.

E. Describe the existing and approved but unimplemented services of similar healthcare providers in the service area. Include utilization and/or occupancy trends for each of the most recent three years of data available for this type of project. List each provider and its utilization and/or occupancy individually. Inpatient bed projects must include the following data: Admissions or discharges, patient days, average length of stay, and occupancy. Other projects should use the most appropriate measures, e.g., cases, procedures, visits, admissions, etc. This doesn't apply to projects that are solely relocating a service.

RESPONSE: The 11-county service area aggregate 3-year utilization for all existing and approved providers is 123.2%, which is significantly greater than 70% utilization threshold indicating that need exists in the service area. There are currently no approved but unimplemented cardiac cath services in the service area.

For ease of review, the following table provides the utilization of each provider in the service area for the most recent three years of data available. Please refer to Attachment B-Need-A.8 for the detailed Cardiac Cath Calculations from the Tennessee Department of Health, Division of Policy, Planning and Assessment.

Table 11
Service Area Cardiac Cath Lab Utilization

Service Area Hospital	Cardiac Cath Equivalents*			Cath Labs	Utilization
	Diagnostic	Therapeutic	Total		
Methodist Medical Center of Oak Ridge	4,316.0	3,187.0	7,503.0	2	187.6%
Tennova Healthcare - LaFollette Medical Center	3.0	21.0	24.0	0	N/A
Tennova Healthcare - Newport Medical Center	0.0	6.0	6.0	0	N/A
Morristown - Hamblen Healthcare System	1,815.0	1,462.0	3,277.0	2	81.9%
Lakeway Regional Hospital	34.5	6.0	40.5	0	N/A
Tennova Healthcare - Jefferson Memorial Hospital	32.0	127.0	159.0	0	N/A
Fort Sanders Regional Medical Center	3,368.0	2,868.0	6,236.0	4	78.0%
Tennova Healthcare (PRMC)	3,716.0	5,372.0	9,088.0	3	151.5%
University of Tennessee Memorial Hospital	7,098.0	7,342.0	14,440.0	5	144.4%
Parkwest Medical Center	8,226.5	5,810.0	14,036.5	5	140.4%
Tennova Healthcare - Turkey Creek Medical Center	1,567.0	2,160.0	3,727.0	1	186.4%
Tennova Healthcare - North Knoxville Medical Center*	39.0	102.0	141.0	1	7.1%
LeConte Medical Center	437.5	11.0	448.5	1	22.4%
Total	**30,652.5**	**28,474.0**	**59,126.5**	**24**	**123.2%**
Capacity per Lab (defined by Standards)				2,000	
Total Capacity in Service Area				48,000	
Percent of Existing Services to Capacity				**123.2%**	

Sources & Notes:
Tennessee Department of Health ("TDH"), Division of Policy, Planning and Assessment, Office of Healthcare Facility Statistics; Certificate of Need Cardiac Cath Calculations based on 2009 State Health Plan Standards.
*Highest weighted cardiac cath services provided based on TDH Hospital Discharge Data System 2013-2015 recorded procedure level codes (CPT) and service categories.

F. Provide applicable utilization and/or occupancy statistics for your institution for each of the past three years and the projected annual utilization for each of the two years following completion of the project. Additionally, provide the details regarding the methodology used to project utilization. The methodology **must include** detailed calculations or documentation from referral sources, and identification of all assumptions.

RESPONSE: For details regarding the methodology used to project the following utilization, please refer to Tables 4 – 7 and application pages 24 – 27 presented above.

Table 12
North Knoxville Medical Center: Historical & Projected Cardiac Cath Volumes

	Historical Volume			Projected Volume	
Type of Cath	**CY15**	**CY16**	**CY17**	**Year 1**	**Year 2**
Diagnostic	101	120	112	305	381
Therapeutic	0	0	0	101	126
Total Cases	**101**	**120**	**112**	**406**	**507**
Weighted Cases	101.0	120.0	112.0	507.0	633.0
Lab Utilization	**5.1%**	**6.0%**	**5.6%**	**25.4%**	**31.7%**

SECTION B: ECONOMIC FEASIBILITY

A. Provide the cost of the project by completing the Project Costs Chart on the following page. Justify the cost of the project.

1) All projects should have a project cost of at least $15,000 (the minimum CON Filing Fee). (See Application Instructions for Filing Fee)

RESPONSE: The total cost of the proposed Project is limited and triggers only the minimum CON Filing Fee. The CON Filing Fee is attached to the application and a copy of the submitted check is included in Attachment B-EconFeas-A.1.

2) The cost of any lease (building, land, and/or equipment) should be based on fair market value or the total amount of the lease payments over the initial term of the lease, whichever is greater. Note: This applies to all equipment leases including by procedure or "per click" arrangements. The methodology used to determine the total lease cost for a "per click" arrangement must include, at a minimum, the projected procedures, the "per click" rate and the term of the lease.

RESPONSE: Not applicable. The Project does not encompass the leasing of any buildings, land or equipment. The equipment required for the proposed Project will be purchased and the service will be offered in the existing cardiac cath lab at NKMC.

3) The cost for fixed and moveable equipment includes, but is not necessarily limited to, maintenance agreements covering the expected useful life of the equipment; federal, state, and local taxes and other government assessments; and installation charges, excluding capital expenditures for physical plant renovation or in-wall shielding, which should be included under construction costs or incorporated in a facility lease.

RESPONSE: The cost for the moveable equipment that is part of the proposed Project includes maintenance agreements, taxes and installation charges. See Attachment B-EconFeas-A.3 for a copy of the equipment quote.

4) Complete the Square Footage Chart on page 8 and provide the documentation. Please note the Total Construction Cost reported on line 5 of the Project Cost Chart should equal the Total Construction Cost reported on the Square Footage Chart.

RESPONSE: Not applicable. The proposed Project does not include any renovation of existing space or new construction.

5) For projects that include new construction, modification, and/or renovation—**documentation must be** provided from a licensed architect or construction professional that support the estimated construction costs. Provide a letter that includes the following:

   a) A general description of the project;

   b) An estimate of the cost to construct the project;

   c) A description of the status of the site's suitability for the proposed project; and

   d) Attesting the physical environment will conform to applicable federal standards, manufacturer's specifications and licensing agencies' requirements including the AIA Guidelines for Design and Construction of Hospital and Health Care Facilities in current use by the licensing authority.

RESPONSE: Not applicable.

PROJECT COST CHART

A.	Construction and equipment acquired by purchase:		
	1.	Architectural and Engineering Fees	
	2.	Legal, Administrative (Excluding CON Filing Fee), Consultant Fees	$65,000
	3.	Acquisition of Site	
	4.	Preparation of Site	
	5.	Total Construction Costs	
	6.	Contingency Fund	$30,000
	7.	Fixed Equipment (Not included in Construction Contract)	
	8.	Moveable Equipment (List all equipment over $50,000 as separate attachments)	$117,225
	9.	Other (Specify) _____	
B.	Acquisition by gift, donation, or lease:		
	1.	Facility (inclusive of building and land)	
	2.	Building only	
	3.	Land only	
	4.	Equipment (Specify)_____	
	5.	Other (Specify) _____	
C.	Financing Costs and Fees:		
	1.	Interim Financing	
	2.	Underwriting Costs	
	3.	Reserve for One Year's Debt Service	
	4.	Other (Specify) _____	
D.	Estimated Project Cost (A+B+C)		**$212,225**
E.	CON Filing Fee		$15,000
F.	Total Estimated Project Cost (D+E)	**TOTAL**	**$227,225**

B. Identify the funding sources for this project.

Check the applicable item(s) below and briefly summarize how the project will be financed. ***(Documentation for the type of funding MUST be inserted at the end of the application, in the correct alpha/numeric order and identified as Attachment Section B-Economic Feasibility-B.)***

__ 1) Commercial loan – Letter from lending institution or guarantor stating favorable initial contact, proposed loan amount, expected interest rates, anticipated term of the loan, and any restrictions or conditions;

__ 2) Tax-exempt bonds – Copy of preliminary resolution or a letter from the issuing authority stating favorable initial contact and a conditional agreement from an underwriter or investment banker to proceed with the issuance;

__ 3) General obligation bonds – Copy of resolution from issuing authority or minutes from the appropriate meeting;

__ 4) Grants – Notification of intent form for grant application or notice of grant award;

XX 5) Cash Reserves – Appropriate documentation from Chief Financial Officer of the organization providing the funding for the project and audited financial statements of the organization; and/or

__ 6) Other – Identify and document funding from all other sources.

C. Complete Historical Data Charts on the following two pages—***Do not modify the Charts provided or submit Chart substitutions!***

Historical Data Chart represents revenue and expense information for the last *three (3)* years for which complete data is available. Provide a Chart for the total facility and Chart just for the services being presented in the proposed project, if applicable. **Only complete one chart if it suffices.**

Note that "Management Fees to Affiliates" should include management fees paid by agreement to the parent company, another subsidiary of the parent company, or a third party with common ownership as the applicant entity. "Management Fees to Non-Affiliates" should include any management fees paid by agreement to third party entities not having common ownership with the applicant.

x Total Facility
□ Project Only

HISTORICAL DATA CHART

Give information for the last *three (3)* years for which complete data are available for the facility or agency. The fiscal year begins in **January** (Month).

		Year 2014	Year 2015	Year 2016
A.	Utilization Data (Specify unit of measure, e.g., 1,000 patient days, 500 visits) - **Discharges**	3,675	4,030	4,188
B.	Revenue from Services to Patients			
1.	Inpatient Services	$108,632,000	$136,772,000	$152,509,000
2.	Outpatient Services	239,146,000	290,541,000	336,048,000
3.	Emergency Services	49,636,000	63,414,000	69,323,000
4.	Other Operating Revenue (Specify)_non-operating revenue	3,780,000	3,985,000	1,337,000
	Gross Operating Revenue	**$401,194,000**	**$494,712,000**	**$559,217,000**
C.	Deductions from Gross Operating Revenue			
1.	Contractual Adjustments	$309,470,000	$399,182,000	$457 603 000
2.	Provision for Charity Care	1,251,000	125,000	427,000
3.	Provisions for Bad Debt	10,241,000	11,863,000	11,467,000
	Total Deductions	**$320,962,000**	**$411,170,000**	**$469,407,000**
NET OPERATING REVENUE		**$ 80,232,000**	**$ 83,542,000**	**$ 89,720,000**
D.	Operating Expenses			
1.	Salaries and Wages (includes benefits)			
a.	Direct Patient Care	19,722,000	20,847,000	21,606,000
b.	Non-Patient Care	6,388,000	5,306,000	4,332,000
2.	Physician's Salaries and Wages			
3.	Supplies	9,275,000	11,046,000	12,323,000
4.	Rent			
a.	Paid to Affiliates			
b.	Paid to Non-Affiliates	1,249,000	2,069,000	2,534,000
5.	Management Fees:			
a.	Paid to Affiliates	2,481,000	1,198,000	1,025,000
b.	Paid to Non-Affiliates			
6.	Other Operating Expenses	15,336,000	18,156,000	18,600,000
	Total Operating Expenses	**$ 54,451,000**	**$ 58,622,000**	**$ 60,420,000**
E.	**Earnings Before Interest, Taxes and Depreciation**	**$ 25,781,000**	**$ 24,920,000**	**$ 29,300,000**
F.	Non-Operating Expenses			
1.	Taxes	$ 1,280,000	$ 1,472,000	$ 1,386,000
2.	Depreciation	3,584,000	3,992,000	4,286,000
3.	Interest	667,000	16,000	85,000
4.	Other Non-Operating Expenses	5,701,000	6,052,000	5,929,000
	Total Non-Operating Expenses	**$ 11,232,000**	**$ 11,532,000**	**$ 11,686,000**
NET INCOME (LOSS)		**$ 14,549,000**	**$ 13,388,000**	**$ 17,614,000**

Chart Continues Onto Next Page

NET INCOME (LOSS)		**$ 14,549,000**	**$ 13,388,000**	**$ 17,614,000**
G.	Other Deductions			
1.	Annual Principal Debt Repayment			
2.	Annual Capital Expenditure	2,084,000	4,954,000	7,773,000
	Total Other Deductions	**$ 2,084,000**	**$ 4,954,000**	**$ 7,773,000**
	NET BALANCE	**$ 12,465,000**	**$ 8,434,000**	**$ 9,841,000**
	DEPRECIATION	**$ 3,584,000**	**$ 3,992,000**	**$ 4,286,000**
	FREE CASH FLOW (Net Balance + Depreciation)	**$ 16,049,000**	**$ 12,426,000**	**$ 14,127,000**

X Total Facility

☐ Project Only

HISTORICAL DATA CHART-OTHER EXPENSES

OTHER EXPENSES CATEGORIES	**Year 2014**	**Year 2015**	**Year 2016**
1. Professional Services Contract	$ 6,551,000	$ 9,756,000	$11,045,000
2. Contract Labor	19,000	71,000	147,000
3. Utilities (Energy)	2,132,000	2,201,000	2,016,000
4. Maintenance	2,354,000	2,754,000	2,767,000
5. Med Spec Fees	1,942,000	1,172,000	982,000
6. All Other (Marketing, Insurance, etc.)	2,338,000	2,202,000	1,643,000
Total Other Expenses	**$15,336,000**	**$18,156,000**	**$18,600,000**

HISTORICAL DATA CHART

□ Total Facility
x Project Only

Give information for the last *three (3)* years for which complete data are available for the facility or agency. The fiscal year begins in **January** (Month). *****NOTE: NKMC's cardiac cath program was initiated in June 2015; thus, CY2016 is the first full year. CY2017 is annualized based on YTD 11 mos. ending November.***

		Year N/A**	Year 2016**	Year 2017**
A.	Utilization Data (Specify unit of measure, e.g., 1,000 patient days, 500 visits) – Cath Cases		120	112
B.	Revenue from Services to Patients			
1.	Inpatient Services		$ 3,606,000	$ 4,114,000
2.	Outpatient Services		1,280,000	1,460,000
3.	Emergency Services			
4.	Other Operating Revenue (Specify)_____			
	Gross Operating Revenue		**$ 4,886,000**	**$ 5,574,000**
C.	Deductions from Gross Operating Revenue			
1.	Contractual Adjustments		$ 4,131,000	$ 4,714,000
2.	Provision for Charity Care			
3.	Provisions for Bad Debt			
	Total Deductions		**$ 4,131,000**	**$ 4,714,000**
NET OPERATING REVENUE			**$ 755,000**	**$ 860,000**
D.	Operating Expenses			
1.	Salaries and Wages (*includes Benefits*)			
c.	Direct Patient Care		303,000	313,000
d.	Non-Patient Care			
2.	Physician's Salaries and Wages			
3.	Supplies		51,000	166,000
4.	Rent			
a.	Paid to Affiliates			
b.	Paid to Non-Affiliates		239,000	235,000
5.	Management Fees:			
c.	Paid to Affiliates			
d.	Paid to Non-Affiliates			
6.	Other Operating Expenses		77,000	101,000
	Total Operating Expenses		**$ 670,000**	**815,000**
E.	**Earnings Before Interest, Taxes and Depreciation**		**$ 85,000**	**$ 45,000**
F.	Non-Operating Expenses			
1.	Taxes		5,000	15,000
2.	Depreciation		400,000	400,000
3.	Interest			
4.	Other Non-Operating Expenses			
	Total Non-Operating Expenses		**$ 405,000**	**$ 415,000**
NET INCOME (LOSS)			**$ (320,000)**	**$ (370,000)**

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NET INCOME (LOSS)		**$ (320,000)**	**$ (370,000)**
G.	Other Deductions		
1.	Annual Principal Debt Repayment	$	$
2.	Annual Capital Expenditure		
	Total Other Deductions	$	$
	NET BALANCE	**$ (320,000)**	**$ (370,000)**
	DEPRECIATION	**$ 400,000**	**$ 400,000**
	FREE CASH FLOW (Net Balance + Depreciation)	**$ 80,000**	**$ 30,000**

☐ Total Facility
X Project Only

HISTORICAL DATA CHART-OTHER EXPENSES

OTHER EXPENSES CATEGORIES	Year N/A	Year 2016	Year 2017
1. Repair & Maintenance		46,000	72,000
2. Outside Services		27,000	24,000
3. Other		4,000	5,000
Total Other Expenses		**$ 77,000**	**$ 101,000**

D. Complete Projected Data Charts on the following two pages – ***Do not modify the Charts provided or submit Chart substitutions!***

The Projected Data Chart requests information for the two years following the completion of the proposed services that apply to the project. Please complete two Projected Data Charts. One Projected Data Chart should reflect revenue and expense projections for the ***Proposal Only*** (*i.e.*, if the application is for additional beds, include anticipated revenue from the proposed beds only, not from all beds in the facility). The second Chart should reflect information for the total facility. **Only complete one chart if it suffices.**

Note that "Management Fees to Affiliates" should include management fees paid by agreement to the parent company, another subsidiary of the parent company, or a third party with common ownership as the applicant entity. "Management Fees to Non-Affiliates" should include any management fees paid by agreement to third party entities not having common ownership with the applicant.

X Total Facility
□ Project Only

PROJECTED DATA CHART

Give information for the two (2) years following the completion of this proposal. The fiscal year begins in **January** (Month).

		Year 1	Year 2
A.	Utilization Data (Discharges)	4,523	4,700
B.	Revenue from Services to Patients		
	1. Inpatient Services	$164,702,000	$171,159,000
	2. Outpatient Services	362,914,000	377,143,000
	3. Emergency Services	74,866,000	77,801,000
	4. Other Operating Revenue (Specify)_____	1,444,000	1,501,000
	Gross Operating Revenue	**$603,926,000**	**$627,604,000**
C	Deductions from Gross Operating Revenue		
	1. Contractual Adjustments	$494,188,000	$513,564,000
	2. Provision for Charity Care	461,000	479,000
	3. Provisions for Bad Debt	12,384,000	12,869,000
	Total Deductions	**$507,033,000**	**$526,912,000**
NET OPERATING REVENUE		**$ 96,893,000**	**$100,692,000**
D.	Operating Expenses		
	1. Salaries and Wages *(includes Benefits)*		
	a. Direct Patient Care	23,333,000	24,248,000
	b. Non-Patient Care	4,678,000	4,861,000
	2. Physician's Salaries and Wages		
	3. Supplies	13,308,000	13,830,000
	4. Rent		
	a. Paid to Affiliates		
	b. Paid to Non-Affiliates	2,737,000	2,844,000
	5. Management Fees:		
	a. Paid to Affiliates		
	b. Paid to Non-Affiliates	1,107,000	1,151,000
	6. Other Operating Expenses	20,195,000	21,043,000
	Total Operating Expenses	**$ 65,358,000**	**$ 67,977,000**
E.	**Earnings Before Interest, Taxes and Depreciation**	**$ 31,535,000**	**$ 32,715,000**
F.	Non-Operating Expenses		
	1. Taxes	$ 1,414,000	$ 1,428,000
	2. Depreciation	4,686,000	4,886,000
	3. Interest	86,000	87,000
	4. Other Non-Operating Expenses	6,403,000	6,655,000
	Total Non-Operating Expenses	**$ 12,589,000**	**$ 13,056,000**
NET INCOME (LOSS)		**$ 18,946,000**	**$ 19,659,000**

Chart Continues Onto Next Page

NET INCOME (LOSS)	**$ 18,946,000**	**$ 19,659,000**
G. Other Deductions		
1. Estimated Annual Principal Debt Repayment	$	$
2. Annual Capital Expenditure	4,000,000	4,000,000
Total Other Deductions	$ 4,000,000	$ 4,000,000
NET BALANCE	**$ 14,946,000**	**$ 15,659,000**
DEPRECIATION	**$ 4,686,000**	**$ 4,886,000**
FREE CASH FLOW (Net Balance + Depreciation)	**$ 19,632,000**	**$ 20,545,000**

X Total Facility

☐ Project Only

PROJECTED DATA CHART-OTHER EXPENSES

OTHER EXPENSES CATEGORIES	Year 1	Year 2
1. Professional Services Contract	$ 11,928,000	$ 12,396,000
2, Contract Labor	159,000	165,000
3, Utilities	2,223,000	2,334,000
4, Maintenance	3,050,000	3,203,000
5, Med Spec Fees	1,061,000	1,102,000
6. All Other	1,774,000	1,843,000
Total Other Expenses	**$ 20,195,000**	**$ 21,043,000**

PROJECTED DATA CHART

□ Total Facility
X Project Only

Give information for the two (2) years following the completion of this proposal. The fiscal year begins in **January** (Month).

		Year 1	Year 2
A.	Utilization Data (Procedures – Cardiac Catheterizations)	406	507
B.	Revenue from Services to Patients		
	1. Inpatient Services	$ 7,516,100	$ 9,655,200
	2. Outpatient Services	10,660,200	13,716,300
	3. Emergency Services		
	4. Other Operating Revenue (Specify)_____		
	Gross Operating Revenue	**$ 18,176,300**	**$ 23,371,500**
C	Deductions from Gross Operating Revenue		
	1. Contractual Adjustments	$ 14,541,000	$ 18,697,200
	2. Provision for Charity Care	90,900	116,900
	3. Provisions for Bad Debt	454,400	584,300
	Total Deductions	**$ 15,086,300**	**$ 19,398,400**
NET OPERATING REVENUE		**$ 3,090,000**	**$ 3,973,100**
D.	Operating Expenses		
	1. Salaries and Wages *(includes Benefits)*		
	a. Direct Patient Care	402,600	414,600
	b. Non-Patient Care		
	2. Physician's Salaries and Wages		
	3. Supplies	1,056,400	1,358,400
	4. Rent		
	a. Paid to Affiliates		
	b. Paid to Non-Affiliates	250,000	250,000
	5. Management Fees:		
	a. Paid to Affiliates		
	b. Paid to Non-Affiliates		
	6. Other Operating Expenses	124,300	124,300
	Total Operating Expenses	**$ 1,833,300**	**$ 2,147,500**
E.	**Earnings Before Interest, Taxes and Depreciation**	**$ 1,256,700**	**$ 1,825,600**
F.	Non-Operating Expenses		
	1. Taxes	$ 43,000	$ 53,200
	2. Depreciation	434,400	434,400
	3. Interest		
	4. Other Non-Operating Expenses		
	Total Non-Operating Expenses	$ 477,400	$ 487,600
NET INCOME (LOSS)		**$ 779,300**	**$ 1,338,000**

Chart Continues Onto Next Page

NET INCOME (LOSS)	**$ 779,300**	**$ 1,338,000**
G. Other Deductions		
1. Estimated Annual Principal Debt Repayment	$	$
2. Annual Capital Expenditure		
Total Other Deductions	$	$
NET BALANCE	**$ 779,800**	**$ 1,338,000**
DEPRECIATION	$ 434,400	$ 434,400
FREE CASH FLOW (Net Balance + Depreciation)	**$ 1,214,200**	**$ 1,772,400**

☐ Total Facility

X Project Only

PROJECTED DATA CHART-OTHER EXPENSES

OTHER EXPENSES CATEGORIES	Year 1	Year 2
1. Repair and Maintenance	$ 84,800	$ 84,800
2. Outside Services	30,000	30,000
4. Contingency	9,500	9,500
Total Other Expenses	**$ 124,300**	**$ 124,300**

E. 1) Please identify the project's average gross charge, average deduction from operating revenue, and average net charge using information from the Projected Data Chart for Year 1 and Year 2 of the proposed project. Please complete the following table.

RESPONSE: NKMC currently does not provide therapeutic cardiac catheterization services; thus, historical charge data for this service does not exist. Proposed charges for Year One and Year Two are provided in the following chart.

	Previous Year	Current Year	Year One	Year Two	% Change (Current Year to Year 2)
Gross Charge *(Gross Operating Revenue/Utilization Data)*	N/A	N/A	$44,800	$46,100	3%
Deduction from Revenue *(Total Deductions/Utilization Data)*	N/A	N/A	$37,200	$38,300	3%
Average Net Charge *(Net Operating Revenue/Utilization Data)*	N/A	N/A	$7,600	$7,800	3%

2) Provide the proposed charges for the project and discuss any adjustment to current charges that will result from the implementation of the proposal. Additionally, describe the anticipated revenue from the project and the impact on existing patient charges.

RESPONSE: Proposed charges are commensurate with charges for therapeutic cardiac cath services at Tennova's other hospitals in the Knoxville area, PRMC and Turkey Creek. No adjustments to charges will be made for current diagnostic cardiac cath services (or any other hospital services) upon the initiation of the proposed therapeutic cardiac cath service. The addition of the proposed interventional cardiac cath service will positively impact hospital-wide revenue.

3) Compare the proposed charges to those of similar facilities in the service area/adjoining service areas, or to proposed charges of projects recently approved by the Health Services and Development Agency. If applicable, compare the proposed charges of the project to the current Medicare allowable fee schedule by common procedure terminology (CPT) code(s).

RESPONSE: Statewide, Tennova's Knoxville hospitals that provide therapeutic cardiac cath services compare favorably to other hospital therapeutic cardiac cath providers across the state. When comparing median charges for DRGs 191 and 192 (using the most recent data Tennessee Hospital Discharge Data available), both PRMC's and Turkey Creek's charges are reasonable when compared to the average charge for all hospitals in the state with inpatients with these two diagnoses.

F. 1) Discuss how projected utilization rates will be sufficient to support the financial performance. Indicate when the project's financial breakeven is expected and demonstrate the availability of sufficient cash flow until financial viability is achieved. Provide copies of the balance sheet and income statement from the most recent reporting period of the institution and the most recent audited financial statements with accompanying notes, if applicable. For all projects, provide financial information for the corporation, partnership, or principal parties that will be a source of funding for the project. Copies must be inserted at the end of the application, in the correct alpha-numeric order and labeled as **Attachment Section B-Economic Feasibility-F1**. **NOTE: Publicly held entities only need to reference their SEC filings.**

RESPONSE: NKMC's reasonable volume projections support the financial performance of the cardiac cath program, which is expected to have a positive bottom line in Project Year 1, resulting from additional procedure volume covering the current fixed costs plus all incremental costs.

The applicant has cash available to implement the proposed project and support the Year 1 operations until financial breakeven, if needed. Please refer to Attachment B-EconFeas-B for project funding letters from CHS' Vice President and Treasurer and NKMC's CFO.

As part of Tennova Healthcare, which has as its ultimate parent Community Health Systems, Inc. ("CHS"), the Applicant entity does not have audited financial statements. The most recent SEC filing of CHS (2016 10-K and the 2016 Annual Report) reflects the ability of CHS to fund the project, if needed. As reported in the 2016 Annual Report to Shareholders, CHS' 2016 adjusted EBITDA (Earnings Before Interest, Taxes, Depreciation, and Amortization) was over $2.2 billion and earnings per share from continuing operations excluding adjustments was $0.46. CHS' adjusted net cash provided by operating activities was over $1.15 billion in 2016, which was up 11% compared to the organization's 2015 performance.

2) Net Operating Margin Ratio – Demonstrates how much revenue is left over after all the variable or operating costs have been paid. The formula for this ratio is: (Earnings before interest, Taxes, and Depreciation/Net Operating Revenue).

Utilizing information from the Historical and Projected Data Charts please report the net operating margin ratio trends in the following table:

Year	2nd Year previous to Current Year	1st Year previous to Current Year	Current Year (2016)	Projected Year 1	Projected Year 2
Net Operating Margin Ratio **(NKMC)**	32.1%	29.8%	32.7%	32.6%	32.5%

3) Capitalization Ratio (Long-term debt to capitalization) – Measures the proportion of debt financing in a business's permanent (Long-term) financing mix. This ratio best measures a business's true capital structure because it is not affected by short-term financing decisions. The formula for this ratio is: (Long-term debt/(Long-term debt+Total Equity (Net assets)) x 100).

For the entity (applicant and/or parent company) that is funding the proposed project please provide the capitalization ratio using the most recent year available from the funding entity's audited balance sheet, if applicable. The Capitalization Ratios are not expected from outside the company lenders that provide funding.

RESPONSE: CHS' FY16 capitalization ratio is 89.5, demonstrated by the financial statements provided in Attachment B-EconFeas-F1.

G. Discuss the project's participation in state and federal revenue programs including a description of the extent to which Medicare, TennCare/Medicaid and medically indigent patients will be served by the project. Additionally, report the estimated gross operating revenue dollar amount and percentage of projected gross operating revenue anticipated by payor classification for the first year of the project by completing the table below.

Applicant's Projected Payor Mix, Year 1

Payor Source	Projected Gross Operating Revenue	As a % of total
Medicare/Medicare Managed Care	$ 4,544,100	25.0%
TennCare/Medicaid	$ 1,817,600	10.0%
Commercial/Other Managed Care	$ 9,906,100	54.5%
Self-Pay	$ 1,817,600	10.0%
Charity Care	$ 90,900	0.5%
Total	$18,176,300	100.0%

H. Provide the projected staffing for the project in Year 1 and compare to the current staffing for the most recent 12-month period, as appropriate. This can be reported using full-time equivalent (FTEs) positions for these positions. Additionally, please identify projected salary amounts by position classifications and compare the clinical staff salaries to prevailing wage patterns in the proposed service area as published by the Department of Labor & Workforce Development and/or other documented sources.

Position Classification	Existing FTEs (enter year)	Projected FTEs Year 1	Average Wage (Contractual Rate)	Area Wide/Statewide Average Wage*
a) Direct Patient Care Positions	CY2017			
RNs	2.0	2.0	$30/hour	$28/hour
Techs	2.0	4.0	$23/hour	$22/hour
Total Direct Patient Care Positions	**4.0**	**6.0**		
b) Non-Patient Care Positions				
Position 1				
Position 2				
Total Non-Patient Care Positions				
Total Employees *(A+B)*				
c) Contractual Staff				
Total Staff *(a+b+c)*	**4.0**	**6.0**		

*Source: TN Dept. of Labor and Workforce Development, 2016 data.

I. Describe all alternatives to this project which were considered and discuss the advantages and disadvantages of each alternative including but not limited to:

1) Discuss the availability of less costly, more effective and/or more efficient alternative methods of providing the benefits intended by the proposal. If development of such alternatives is not practicable, justify why not, including reasons as to why they were rejected.

RESPONSE: There are simply no viable alternatives to the proposed modernization and expansion of NKMC's existing cardiac cath services.

The alternative to this proposal is for NKMC to continue transferring patients requiring therapeutic cardiac cath services to other hospitals, which unnecessarily delays care while increasing the cost of care and risk to the patient.

2) Document that consideration has been given to alternatives to new construction, e.g., modernization or sharing arrangements.

RESPONSE: The proposed project will modernize existing cardiac cath services in an existing lab at NKMC with no need for renovation or new construction; thus, is an economically feasible alternative to ensure service area patients receive needed services in a timely manner.

SECTION B: CONTRIBUTION TO THE ORDERLY DEVELOPMENT OF HEALTH CARE

A. List all existing health care providers (i.e., hospitals, nursing homes, home care organizations, etc.), managed care organizations, alliances, and/or networks with which the applicant currently has or plans to have contractual and/or working relationships, that may directly or indirectly apply to the project, such as, transfer agreements, contractual agreements for health services.

RESPONSE: Tennova Healthcare has contractual and working relationships with a number of providers that represent a variety of segments of the healthcare industry, including general acute care hospitals, tertiary care medical centers, nursing homes, and home care organizations. NKMC has plans contractual and/or working relationships with the following providers:

Asbury Place Maryville HealthCare
Blount Memorial Hospital
Brookdale Kingston
Claiborne Medical Center
East Tennessee Children's Hospital
Jellico Community Hospital
Laughlin Memorial Hospital
Morgan County Medical Center
NHC Healthcare Fort Sanders
Parkwest Surgery Center
Ridgeview Terrace of LifeCare
Select Specialty Hospital – North Knoxville Inc.
Shannondale
Starr Regional Medical Center
UT Medical Center – Knoxville
West Hills Health and Rehab
Baptist Health Care Center
Briarcliff Health Care Center
Claiborne Health and Rehabilitation Center
Concordia Care – Northhaven
Holston Health and Rehabilitation Center
Lafollette Medical Center
LifeCare Center
NHC Farragut
NHC Healthcare Knoxville
Peninsula Behavioral Health
Rural Metro Ambulance Services
Serene Manor Medical Center
Signature HealthCARE of Rockwood
Takoma Regional Hospital
Vanderbilt University
Westmoreland Health & Rehab Center

B. Describe the effects of competition and/or duplication of the proposal on the health care system, including the impact to consumers and existing providers in the service area. Discuss any instances of competition and/or duplication arising from your proposal including a description of the effect the proposal will have on the utilization rates of existing providers in the service area of the project.

1) Positive Effects

RESPONSE: NKMC's proposed expansion of its existing cardiac cath services to include therapeutic cath will positively impact service area residents (consumers) by ensuring that interventional, life-saving health care services are available when and where needed. Currently, NKMC transfers approximately 400 patients annually from its ED and inpatient units who would benefit from the proposed modernization and upgrade of equipment in the existing cardiac cath lab to include therapeutic services. These patients, who are currently choosing to receive health care services at North Knoxville, must be transported to another facility because NKMC is not licensed to offer therapeutic cath services. Thus, not only would the provision of services at NKMC mean shorter time from onset of symptoms to restoration of blood flow for cardiac patients (which is a critical quality of care issue), but it would also mean that patients choosing to receive care at NKMC would be able to do so.

Additionally, North Knoxville's proposed therapeutic cath service will enhance access to care for all service area patients, including those who reside in outlying service area counties and must now travel into the congested downtown Knoxville area for therapeutic cath services. Moreover, once on the NKMC hospital campus, access and wayfinding to the cardiac cath services is much easier and more manageable for patients, including the elderly, than on the much larger and more congested campus of PRMC.

The provision of therapeutic cardiac cath services without on-site surgical backup is a safe and accepted treatment for patients in need when performed by experienced physicians. Low-risk patients with the need for a therapeutic cath during the same session in which the diagnostic cardiac cath is performed are optimally served by having the interventional procedure during the same session, rather than being forced to undergo a second cath procedure at a different location, and oftentimes at a later date (when not an emergent situation).

Moreover, NKMC has on its staff and campus highly-qualified and trained interventional cardiologists who are capable of performing therapeutic procedures, and who already serve a significant number of therapeutic cath patients from the defined 11-county service area at Tennova's PRMC campus. NKMC has available capacity in its existing cardiac cath lab (currently utilized at less than 10%) while PRMC's cath services are highly utilized (151.5% for most recent 3-year period). Thus, the provision of therapeutic cath services at NKMC will significant reduce the need for patients to be transported from NKMC to PRMC for therapeutic cath services, enhancing quality of care for patients and improving operational efficiencies for both NKMC and PRMC cardiac cath services. Notably, NKMC's project can be implemented with minimal costs and no construction or renovation.

2) Negative Effects

RESPONSE: The initiation of therapeutic cardiac cath services at North Knoxville will not adversely impact any existing provider or service area consumers.

C. 1) Discuss the availability of and accessibility to human resources required by the proposal, including clinical leadership and adequate professional staff, as per the State of Tennessee licensing requirements and/or requirements of accrediting agencies, such as the Joint Commission and Commission on Accreditation of Rehabilitation Facilities.

RESPONSE: As an initial matter, it should be noted that minimal additional staff is needed to implement the proposed modernization and expansion of existing diagnostic cath services to include therapeutic cath services. NKMC will work with its sister hospitals (PRMC and Turkey Creek) for existing staff members to receive the necessary training to care for therapeutic patients, including moving some clinical staff who are currently performing interventional cardiac caths from PRMC to NKMC to supplement staffing and provide training for current NKMC staff.

Specific to physicians who will provide the service, NKMC already has on its staff employed interventional cardiologists with a part-time presence in the ETHC office on NKMC's hospital campus, who will begin providing interventional services on NKMC's campus immediately upon approval of the proposed expansion project.

When new staffing is needed, NKMC will utilize its proven methods of staff recruitment and retention to ensure adequate staff for the cardiac cath service is in place. For example, Tennova has a robust and long-standing recruiting process with a demonstrated track record of hiring staff, including use of healthcare program affiliations and national online recruitment, among other means. As a statewide healthcare network, Tennova also has the ability to recruit across a wide geographic region and offer relocation opportunities for staff interested in moving to the Knoxville area.

Tennova Healthcare's retention tools include a comprehensive array of benefits that include medical, dental and vision insurance coverage, life and disability insurance benefits, tuition reimbursement and a 401K retirement plan. As a provider with multiple hospitals in the Knoxville area, Tennova also has the ability to provide career growth opportunities that might not exist at a smaller, single-site institution. Thus, as demonstrated, staffing recruitment and retention for the proposed service expansion will not be a problem for NKMC.

2) Verify that the applicant has reviewed and understands all licensing and/or certification as required by the State of Tennessee and/or accrediting agencies such as the Joint Commission for medical/clinical staff. These include, without limitation, regulations concerning clinical leadership, physician supervision, quality assurance policies and programs, utilization review policies and programs, record keeping, clinical staffing requirements, and staff education.

RESPONSE: The applicant has reviewed and understands all licensing and/or certification as required by the State of Tennessee and/or accrediting agencies such as the Joint Commission for medical/clinical staff.

3) Discuss the applicant's participation in the training of students in the areas of medicine, nursing, social work, etc. (e.g., internships, residencies, etc.).

RESPONSE: Tennova Healthcare, including the applicant entity NKMC, has educational affiliations with numerous schools and organizations, including:

- AT Still University (Arizona School of Health Sciences)
- Carson Newman College
- Creighton University
- East Tennessee State University

- Grace Academy
- Independence University
- Iowa College Acquisition Co (Kaplan University)
- Knox County Schools
- Lincoln Memorial University
- Pellissippi State Community College
- Roane State Community College
- South College
- Tennessee Technical College at Jacksboro
- Tennessee Technical College at Knoxville
- Tennessee Technical College of Oneida
- Union County Schools
- University of New England
- University of Miami
- University of North Carolina at Chapel Hill
- University of Tennessee, Knoxville
- University of Tennessee, Memphis
- Vanderbilt University
- Walden University
- Walters State University

D. Identify the type of licensure and certification requirements applicable and verify the applicant has reviewed and understands them. Discuss any additional requirements, if applicable. Provide the name of the entity from which the applicant has received or will receive licensure, certification, and/or accreditation.

Licensure: **Tennessee Department of Health, Board for Licensing Health Care Facilities**

Certification Type (e.g. Medicare SNF, Medicare LTAC, etc.):

Accreditation (i.e., Joint Commission, CARF, etc.): **Joint Commission**

1) If an existing institution, describe the current standing with any licensing, certifying, or accrediting agency. Provide a copy of the current license of the facility and accreditation designation.

RESPONSE: NKMC is in good standing with all licensing, certifying and accrediting agencies. A copy of the hospital license, Joint Commission accreditation, and relevant portions of Tennova Healthcare's CMS Letter of Compliance are included in Attachment B-Need-A.2.

2) For existing providers, please provide a copy of the most recent statement of deficiencies/plan of correction and document that all deficiencies/findings have been corrected by providing a letter from the appropriate agency.

RESPONSE: North Knoxville Medical Center is in good standing with all licensing agencies. Please refer to Attachment B-Need-A.2 for the hospital license, Joint Commission accreditation, and relevant portions of Tennova Healthcare's CMS Letter of Compliance.

3) Document and explain inspections within the last three survey cycles which have resulted in any of the following state, federal, or accrediting body actions: suspension of admissions, civil monetary penalties, notice of 23-day or 90-day termination proceedings from Medicare/Medicaid/TennCare, revocation/denial of accreditation, or other similar actions.

   a) Discuss what measures the applicant has or will put in place to avoid similar findings in the future.

RESPONSE: Not applicable. Tennova Healthcare is in good standing with all licensing, certifying, and accrediting agencies.

E. Respond to all of the following and for such occurrences, identify, explain and provide documentation:

1) Has any of the following:

   a) Any person(s) or entity with more than 5% ownership (direct or indirect) in the applicant (to include any entity in the chain of ownership for applicant);

   b) Any entity in which any person(s) or entity with more than 5% ownership (direct or indirect) in the applicant (to include any entity in the chain of ownership for applicant) has an ownership interest of more than 5%; and/or

   c) Any physician or other provider of health care, or administrator employed by any entity in which any person(s) or entity with more than 5% ownership in the applicant (to include any entity in the chain of ownership for applicant) has an ownership interest of more than 5%.

2) Been subjected to any of the following:

   a) Final Order or Judgment in a state licensure action;

   b) Criminal fines in cases involving a Federal or State health care offense;

   c) Civil monetary penalties in cases involving a Federal or State health care offense;

   d) Administrative monetary penalties in cases involving a Federal or State health care offense;

   e) Agreement to pay civil or administrative monetary penalties to the federal government or any state in cases involving claims related to the provision of health care items and services; and/or

   f) Suspension or termination of participation in Medicare or Medicaid/TennCare programs.

   g) Is presently subject of/to an investigation, regulatory action, or party in any civil or criminal action of which you are aware.

   h) Is presently subject to a corporate integrity agreement.

RESPONSE: Metro Knoxville HMA, LLC and its immediate parent, Knoxville HMA Holdings, LLC, are subject to Community Health Systems, Inc.'s – their ultimate parent company – Corporate Integrity Agreement ("CIA"), dated July 28, 2014, with the Office of Inspector General ("OIG"). Metro Knoxville HMA, LLC is not aware of any of the other identified actions against its immediate 100%-owner parent, Knoxville HMA Holdings, LLC.

F. Outstanding Projects:

1) Complete the following chart by entering information for each applicable outstanding CON by applicant or share common ownership; and

Outstanding Projects					
CON Number	Project Name	Date Approved	*Annual Progress Report(s) Due Date	*Annual Progress Report(s) Date Filed	Expiration Date
CN1206-027AMM	NKMC PET/CT Unit	04/26/17	04/26/18	N/A	04/26/20
CN1408-033A	PRMC Partial Replacement Hospital	11/19/14	11/19/17 (most recent)	10/31/17 (most recent)	01/01/19
CN1408-034A	PRMC Relocation of 25-bed Nursing Home	11/19/14	11/19/17 (most recent)	10/31/17 (most recent)	01/01/19

* Annual Progress Reports – HSDA Rules require that an Annual Progress Report (APR) be submitted each year. The APR is due annually until the Final Project Report (FPR) is submitted (FPR is due within 90 ninety days of the completion and/or implementation of the project). Brief progress status updates are requested as needed. The project remains outstanding until the FPR is received.

2) Provide a brief description of the current progress, and status of each applicable outstanding CON.

CN1206-027AMM: the project is underway, with completion expected by March 1, 2018.

CN1408-033A: Progress on the partial replacement hospital at Middlebrook Pike is continuing. There have been several delays in beginning site work, but items completed to date include schematic design, relocation of natural gas and waste water lines by the Knoxville Utilities Board, approval by the US Army Corps of Engineers for wetlands mitigation, and an archaeological survey and historic resources reconnaissance completed by S&ME, Inc. for the State Historic Preservation Office ("SHPO").

CN1408-034A: Progress on the partial replacement hospital at Middlebrook Pike is continuing. There have been several delays in beginning site work, but items completed to date include schematic design, relocation of natural gas and waste water lines by the Knoxville Utilities Board, approval by the US Army Corps of Engineers for wetlands mitigation, and an archaeological survey and historic resources reconnaissance completed by S&ME, Inc. for the State Historic Preservation Office ("SHPO").

G. Equipment Registry – For the applicant and all entities in common ownership with the applicant.

1) Do you own, lease, operate, and/or contract with a mobile vendor for a Computed Tomography scanner (CT), Linear Accelerator, Magnetic Resonance Imaging (MRI), and/or Positron Emission Tomographer (PET)? Yes

2) If yes, have you submitted their registration to HSDA? If you have, what was the date of submission? Registration complete for all equipment as acquired; most recent 10.26.16.

3) If yes, have you submitted your utilization to Health Services and Development Agency? If you have, what was the date of submission? 2016 JAR completed with relevant volume data.

SECTION B: QUALITY MEASURES

Please verify that the applicant will report annually using forms prescribed by the Agency concerning continued need and appropriate quality measures as determined by the Agency pertaining to the certificate of need, if approved.

RESPONSE: North Knoxville Medical Center commits to reporting annually utilizing forms prescribed by the Agency concerning continued need and appropriate quality measures as determined by the Agency pertaining to the certificate of need, if approved. NKMC currently provides the Agency required data in a timely manner, such as the Joint Annual Report.

SECTION C: STATE HEALTH PLAN QUESTIONS

T.C.A. §68-11-1625 requires the Tennessee Department of Health's Division of Health Planning to develop and annually update the State Health Plan (found at http://www.tn.gov/health/topic/health-planning). The State Health Plan guides the State in the development of health care programs and policies and in the allocation of health care resources in the State, including the Certificate of Need program. The 5 Principles for Achieving Better Health are from the State Health Plan's framework and inform the Certificate of Need program and its standards and criteria.

Discuss how the proposed project will relate to the 5 Principles for Achieving Better Health found in the State Health Plan.

A. The purpose of the State Health Plan is to improve the health of the people of Tennessee.

RESPONSE: The proposed initiation of therapeutic cardiac cath services at North Knoxville Medical Center will improve the health of the people of Tennessee by providing them with access to a standard of care (therapeutic cardiac cath services without on-site cardiac surgery) at a hospital that they currently rely on for their health care needs. As cardiac disease is a leading cause of premature death in the state of Tennessee as well as the Knoxville area, the opportunity to enhance access to interventional care is a positive step toward improving the health of the residents of Tennessee.

B. People in Tennessee should have access to health care and the conditions to achieve optimal health.

RESPONSE: The proposed Project will enhance access to care, both geographically and economically. Geographically, residents of the 11-county service area will have access to therapeutic cardiac cath services at NKMC, which for many is the closest hospital available when one is experiencing a cardiac episode. Economically, NKMC provides care to all patients, regardless of ability to pay. NKMC provides care to the economically disadvantaged through full participation in the TennCare program, as well as the elderly, many with fixed incomes, through full participation in the Medicare program. NKMC also maintains a broad charity care policy and provides significant discounts to uninsured patients which account for millions of dollars in discounted care annually.

C. Health resources in Tennessee, including health care, should be developed to address the health of people in Tennessee while encouraging economic efficiencies.

RESPONSE: The proposed establishment of therapeutic cardiac cath services at NKMC addresses an important health issue for the residents of the state of Tennessee. Heart disease is the second leading cause of premature death in the state of Tennessee. According to the 2016 analysis of Years of Potential Life Lost (YPLL) Prior to Age 75 Years published by the Tennessee Department of Health, heart disease is second only to cancer as the leading cause of premature death in Tennessee, accounting for over 100,000 years of life lost in 2016 and over 7,000 premature deaths.

In Knox County alone, heart disease is the third leading cause of premature death, accounting for over 6,000 years of life lost and over 400 premature deaths. The proposed Project is focused on reducing time to intervention for patients experiencing a cardiac event, thereby reducing the opportunity for lost heart muscle and a lower quality of life as well. Enhancing accessing to interventional cardiac care will address this important health issue.

The proposed Project also encourages economic efficiencies. Therapeutic cardiac cath services can be offered to service area residents without the addition of significant costs associated with renovations of the existing hospital or new construction. A minimal investment will allow for a very important service to be available to residents of the service area. The residents of the service area are already choosing North Knoxville for their care as exhibited in the patient origin for inpatients at the hospital.

D. People in Tennessee should have confidence that the quality of health care is continually monitored and standards are adhered to by providers.

RESPONSE: NKMC will instill a level of confidence in service area residents that they are receiving care from a high-quality health care provider. Tennova Healthcare, which includes North Knoxville Medical Center, has nearly four decades of experience providing cardiac care to the residents of East Tennessee through the Tennova Heart Institute.

Tennova's comprehensive and experienced cardiac team of nurses, physicians and additional clinicians and support staff have provided advanced cardiac care to thousands of patients. Tennova's advanced approaches to diagnosing, treating and rehabilitating patients with cardiac diagnosis, its participation in national and global clinical trials, as well as the certifications and accreditations of its hospitals provides the confidence to the residents of Tennessee, specifically those within the 11-county service area, that an experienced network of cardiac providers is available when they or a family member needs that care.

North Knoxville Medical Center, as well as all of Tennova Healthcare, regularly monitor and measure clinical processes and outcomes in order to provide the best care possible to its patients. NKMC will continue to focus on quality and improve the care provided by adhering to industry standards of care established by leading organizations in advanced cardiac care such as the American College of Cardiology, the American Heart Association and the Society for Cardiac Angiography and Interventions.

E. The state should support the development, recruitment, and retention of a sufficient and quality health workforce.

RESPONSE: The proposed Project supports workforce development by allowing qualified health care personnel to remain within the state to develop or maintain their skills and abilities by providing an additional site for therapeutic cardiac cath services. Additionally, Tennova Healthcare and the applicant entity have educational affiliations with numerous schools and organizations, which supports the development, recruitment, and retention of a sufficient and quality health workforce for the service are and the state as a whole.

PROOF OF PUBLICATION

Attach the full page of the newspaper in which the notice of intent appeared with the mast and dateline intact or submit a publication affidavit from the newspaper that includes a copy of the publication as proof of the publication of the letter of intent.

See Proof of Publication included in the attachments.*

NOTIFICATION REQUIREMENTS

(Applies only to Nonresidential Substitution-Based Treatment Centers for Opiate Addiction)

Note that T.C.A. §68-11-1607(c)(9)(A) states that "...Within ten (10) days of the filing of an application for a nonresidential substitution-based treatment center for opiate addiction with the agency, the applicant shall send a notice to the county mayor of the county in which the facility is proposed to be located, the state representative and senator representing the house district and senate district in which the facility is proposed to be located, and to the mayor of the municipality, if the facility is proposed to be located within the corporate boundaries of a municipality, by certified mail, return receipt requested, informing such officials that an application for a nonresidential substitution-based treatment center for opiate addiction has been filed with the agency by the applicant."

Failure to provide the notifications described above within the required statutory timeframe will result in the voiding of the CON application.

Please provide documentation of these notifications. ***Not applicable.***

DEVELOPMENT SCHEDULE

T.C.A. §68-11-1609(c) provides that a Certificate of Need is valid for a period not to exceed three (3) years (for hospital projects) or two (2) years (for all other projects) from the date of its issuance and after such time shall expire; provided, that the Agency may, in granting the Certificate of Need, allow longer periods of validity for Certificates of Need for good cause shown. Subsequent to granting the Certificate of Need, the Agency may extend a Certificate of Need for a period upon application and good cause shown, accompanied by a non-refundable reasonable filing fee, as prescribed by rule. A Certificate of Need which has been extended shall expire at the end of the extended time period. The decision whether to grant such an extension is within the sole discretion of the Agency, and is not subject to review, reconsideration, or appeal.

1. **Complete the Project Completion Forecast Chart on the next page. If the project will be completed in multiple phases, please identify the anticipated completion date for each phase.**
2. **If the response to the preceding question *indicates that the applicant does not anticipate completing the project within the period of validity as defined in the preceding paragraph,* please state below any request for an extended schedule and document the "good cause" for such an extension.**

PROJECT COMPLETION FORECAST CHART

Assuming the Certificate of Need (CON) approval becomes the final HSDA action on the date listed in Item 1. below, indicate the number of days from the HSDA decision date to each phase of the completion forecast.

Phase	Days Required	Anticipated Date [Month/Year]
1. Initial HSDA decision date		**April 2018**
2. Architectural and engineering contract signed		
3. Construction documents approved by the Tennessee Department of Health		
4. Construction contract signed		
5. Building permit secured		
6. Site preparation completed		
7. Building construction commenced		
8. Construction 40% complete		
9. Construction 80% complete		
10. Construction 100% complete (approved for occupancy		
11. *Issuance of License	**210**	**Nov. 2018**
12. *Issuance of Service	**240**	**Dec. 2018**
13. Final Architectural Certification of Payment		
14. Final Project Report Form submitted (Form HR0055)		

***For projects that *DO NOT* involve construction or renovation, complete Items 11 & 12 only.**

NOTE: If litigation occurs, the completion forecast will be adjusted at the time of the final determination to reflect the actual issue date

JAN 10 '18 PM 1:15

AFFIDAVIT

STATE OF Tennessee

COUNTY OF Williamson

Martin G. Schweinhart, President of Metro Knoxville HMA, LLC, being first duly sworn, says that he/she is the applicant named in this application or his/her/its lawful agent, that this project will be completed in accordance with the application, that the applicant has read the directions to this application, the Rules of the Health Services and Development Agency, and T.C.A. §68-11-1601, *et seq.*, and that the responses to this application or any other questions deemed appropriate by the Health Services and Development Agency are true and complete.

SIGNATURE/TITLE

Sworn to and subscribed before me this 5th day of January (Month), 2018 (Year) a Notary

Public in and for the County/State of Williamson/Tennessee

MARY ANN ECKMAN
STATE OF TENNESSEE NOTARY PUBLIC
WILLIAMSON COUNTY
My Commission Expires 09-16-2019

NOTARY PUBLIC

My commission expires 09/16 (Month/Day), 2019 (Year).

Appendix
North Knoxville Medical Center Therapeutic Cath CON

List of Attachments	
Attachment	**Information Included**
A-4A	Tennova Healthcare Organizational Documents
A-6A	Special Warranty Deed
A-6B.1	Site Plan
A-6B.2	Cardiac Cath Lab Floor Plans
A-6B.3	Public Transportation Information
A-10A	Licensed Bed Complement – Tennova Healthcare
B-Need-A.2	Licensure and Accreditation Documents
B-Need-A.3	Hospital Transfer Process Policy
B-Need-A.4	Quality Assurance Program
B-Need-A.8	DPH Cardiac Cath Calculations for 11-County Service Area
B-Need-A.16	Physicians' Curriculum Vitae
B-EconFeas-A.1	Filing Fee Check Copy
B-EconFeas-A.3	Equipment Quote
B-EconFeas-B	Project Funding Letters
B-EconFeas-F1	CHS Audited Financial Information
Proof of Publication	Proof of Publication

Attachment A-4A

Tennova Healthcare Organizational Documents

RECEIVED
STATE OF TENNESSEE
40
2011 JUN 10 PM 2:52
TRE HARGETT
SECRETARY OF STATE

6903.8364

State of Tennessee

Department of State
Corporate Filings
312 Eighth Avenue North
6th Floor, William R. Snodgrass Tower
Nashville, TN 37243

ARTICLES OF ORGANIZATION (LIMITED LIABILITY COMPANY)

(For use on or after 7/1/2006)

FILED

For Office Use Only

The Articles of Organization presented herein are adopted in accordance with the provisions of the Tennessee Revised Limited Liability Company Act.

1. The name of the Limited Liability Company is: Metro Knoxville HMA, LLC

(NOTE: Pursuant to the provisions of TCA §48-249-106, each limited Liability Company name must contain the words "Limited Liability Company" or the abbreviation "LLC" or "L.L.C.")

2. The name and complete address of the Limited Liability Company's initial registered agent and office located in the state of Tennessee is:

C T Corporation System
(Name)

800 S. Gay Street, Suite 2021 — Knoxville — TN 37929
(Street address) — *(City)* — *(State/Zip Code)*

Knox
(County)

3. The Limited Liability Company will be: *(NOTE: PLEASE MARK APPLICABLE BOX)*

☐ Member Managed ☒ Manager Managed ☐ Director Managed

4. Number of Members at the date of filing, if more than six (6): _____

5. If the document is not to be effective upon filing by the Secretary of State, the delayed effective date and time is: (Not to exceed 90 days)

Date: _____ Time: _____

6. The complete address of the Limited Liability Company's principal executive office is:

5811 Pelican Bay Blvd, Suite 500 — Naples — FL 34108
(Street Address) — *(City)* — *(State/County/Zip Code)*

7. Period of Duration if not perpetual: _____

8. Other Provisions:

9. THIS COMPANY IS A NONPROFIT LIMITED LIABILITY COMPANY (Check if applicable) ☐

June 8, 2011
Signature Date

Timothy R. Parry
Signature

Organizer
Signer's Capacity (if other than individual capacity)

Timothy R. Parry
Name (printed or typed)

SS-4270 (Rev. 05/06) Filing Fee: $50 per member (minimum fee = $300, maximum fee = $3,000 RDA 2458

TN043 - 02/01/2006 C T System Online

Tre Hargett
Secretary of State

Division of Business Services
Department of State
State of Tennessee
312 Rosa L. Parks AVE, 6th FL
Nashville, TN 37243-1102

CHAFIN CONSULTING GROUP
SUITE 104-150
2566 SHALLOWFORD ROAD
ATLANTA, GA 30345

January 4, 2018

Request Type: Certificate of Existence/Authorization
Request #: 0262246

Issuance Date: 01/04/2018
Copies Requested: 1

Document Receipt

Receipt # : 003724977	Filing Fee: $20.00
Payment-Credit Card - State Payment Center - CC #: 3718422847	$20.00

Regarding:	Metro Knoxville HMA, LLC		
Filing Type:	Limited Liability Company - Domestic	Control # :	660505
Formation/Qualification Date:	06/10/2011	Date Formed:	06/10/2011
Status:	Active	Formation Locale:	TENNESSEE
Duration Term:	Perpetual	Inactive Date:	
Business County:	WILLIAMSON COUNTY		

CERTIFICATE OF EXISTENCE

I, Tre Hargett, Secretary of State of the State of Tennessee, do hereby certify that effective as of the issuance date noted above

Metro Knoxville HMA, LLC

* is a Limited Liability Company duly formed under the law of this State with a date of incorporation and duration as given above;

* has paid all fees, interest, taxes and penalties owed to this State (as reflected in the records of the Secretary of State and the Department of Revenue) which affect the existence/authorization of the business;

* has filed the most recent annual report required with this office;

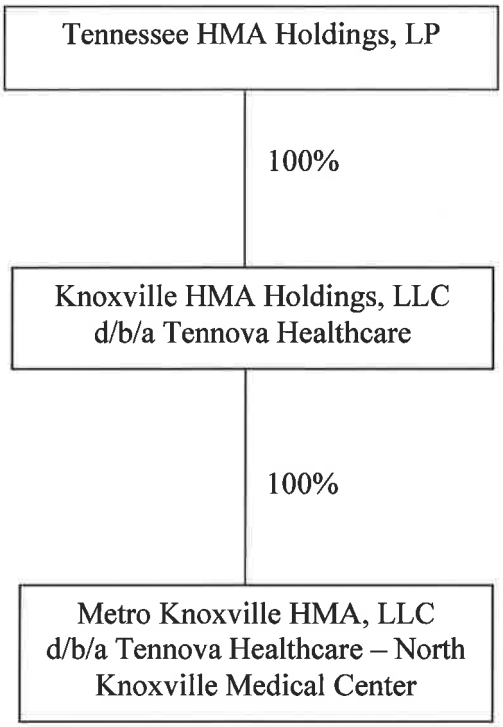
* has appointed a registered agent and registered office in this State;

* has not filed Articles of Dissolution or Articles of Termination. A decree of judicial dissolution has not been filed.

Tre Hargett
Secretary of State

Processed By: Cert Web User

Verification #: 025820725


Tennessee HMA Holdings, LP
100%
Knoxville HMA Holdings, LLC
d/b/a Tennova Healthcare
100%
Metro Knoxville HMA, LLC
d/b/a Tennova Healthcare – North
Knoxville Medical Center

Attachment A-6A

Special Warranty Deed

SHERRY WITT
REGISTER OF DEEDS
KNOX COUNTY

SPECIAL WARRANTY DEED

COUNTERSIGNED
KNOX COUNTY PROPERTY ASSESSOR

OCT 05 2011

BY PHIL BALLARD SC

This instrument was prepared by:
Eric Haselbauer, Esq.
Harter Secrest & Emery LLP
1600 Bausch & Lomb Place
Rochester, New York 14604
IIM80845

Address of New Owner as follows:	Send Tax Bill to:	Tax/Parcel Numbers:
Metro Knoxville HMA, LLC 5811 Pelican Bay Blvd., Suite 500 Naples, FL 34108	Property Valuation Services 14400 Metcalf Avenue Overland Park, KS 66223	SC 047-085.01, 047-085.02, 047-085.03, 047-085.04, 047-058.05, 85.05 m 047-033.23, 047-033.24 & 047-033.25

STATE OF OHIO

COUNTY OF HAMILTON

The undersigned Affiant affirms that to the best of Affiant's knowledge, information and belief, the actual consideration for the transfer or value of the property transferred, whichever is greater, is $65,600,000, which amount is equal to or greater than the amount which the property transferred would command at a fair and voluntary sale.

Metro Knoxville HMA, LLC
Affiant/Grantee

By: Timothy R. Parry

Subscribed and sworn to before me this 29th day of September, 2011.

Notary Public

My Commission expires: [illegible]

1150304_2

Knox County Page: 1 of 5
REC'D FOR REC 10/05/2011 11:16:46AM
RECORD FEE: $28.00
M. TAX: $0.00 T. TAX: $242,720.00
201110050018470

SPECIAL WARRANTY DEED

Mercy Health System, Inc., a Tennessee non-profit, public benefit corporation, successor by name change to St. Mary's Health System, Inc. ("Grantor"), for valuable consideration paid, has bargained and sold, and by these presents does bargain, sell, grant and convey to **Metro Knoxville HMA, LLC**, a Tennessee limited liability company, whose tax mailing address is identified above ("Grantee"), the real estate described on Exhibit A attached hereto and made a part hereof (the "Property").

Source of Grantor's interest is also described on Exhibit A.

The Property includes improved and unimproved parcels with the following addresses: 7551, 7540, 7541, 7561 & 7557 Dannaher Dr., Emory Road and lots on Dannaher Place, Knoxville, Tennessee.

Grantor covenants with respect to the foregoing conveyance that Grantor (a) is lawfully seized and possessed of the Property, (b) has full power and lawful authority to sell and convey the same, and (c) will forever warrant and defend the title against the lawful claims of all persons claiming by, through or under Grantor but not further nor otherwise. Grantor further covenants that the Property is free and clear of all liens and encumbrances, except liens for real property taxes and assessments due and payable in 2011 and thereafter, which Grantee assumes and agrees to pay. This conveyance is made subject to all (i) easements and restrictions of record, (ii) legal highways and (iii) governmental laws, ordinances and regulations affecting the Property.

TO HAVE AND TO HOLD the said Property, together with all rights and appurtenances thereunto belonging or in any wise appertaining to Grantor, its successors and assigns, forever in fee simple.

(signature page follows)

IN WITNESS WHEREOF, Grantor has caused this Special Warranty Deed to be executed this 29th day of September, 2011.

Mercy Health System, Inc.
By: Mercy Health Partners, Inc., its sole member

By: _____
Print Name: Jeff Ashin
Title: President

STATE OF OHIO)
) SS:
COUNTY OF HAMILTON)

Before me, E. Richard Oberschmidt the undersigned, Notary Public in and for the County and State aforesaid, personally appeared Jeff Ashin, with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who upon oath acknowledged himself to be President of Mercy Health Partners, Inc., sole member of Mercy Health System, Inc., the within named Grantor, a Tennessee non-profit, public benefit corporation, and that he as such President of the sole member, being authorized so to do, executed the foregoing instrument for the purposes therein contained, by signing the name of the corporation by himself as President of the sole member.

Witness my hand and seal, at office in Cincinnati, Ohio this the 29th day of September, 2011.

_____
Notary Public

My commission expires: RICHARD OBERSCHMIDT, Attorney at Law
NOTARY PUBLIC - STATE OF OHIO
My commission has no expiration
Date. Section 147.03 R.C.

LEGAL DESCRIPTION

Exhibit A

TRACT I

SITUATED in the Sixth (6th) Civil District of Knox County, Tennessee, without the corporate limits of the City of Knoxville, Tennessee, and being all of Lots 1R-1R1, 1R-1R2, 1R-1R3, 1R-1R4 and 1R-1R5 of the Resubdivision of Lot 1R-1 of the St Mary's Health System S/D and Lot 5 of the Final Plat of Dannaher Place = Unit 1 and Resubdivision of Lots 1, 2, 3 and 4 of the Final Plat of Dannaher Place = Unit 2, dated April 26, 2010, last revised June 1, 2010, filed for record as Instrument No. 201007150002987 (consisting of five (5) sheets) in the Knox County Register of Deeds Office, to which plat specific reference is hereby made for a more particular description of said lots.

~~LESS AND EXCEPT all buildings, improvements, fixtures, structures, pavement and other~~ facilities or structures for parking and landscaping, as conveyed to St. ~~Mary's Health~~ and Wellness Center, LLC, by that certain Quit-Claim Deed from St. ~~Mary's Health~~ System, Inc. dated December 20, 1999, filed for record as Instrument ~~No. 199912300048538~~, for and during the term of that certain lease between St. ~~Mary's Health~~ System, Inc., Lessor, and St. Mary's Health and Wellness Center, LLC, ~~Lessee~~, dated November 1, 1999, as evidenced by Memorandum of Lease filed for ~~record as Instrument No. 199912300048537.~~

BEING a portion of the same property conveyed to St. Mary's Health System, Inc., by Warranty Deed from Sam Furrow, dated January 27, 1993, filed for record in Warranty Book 2095, page 1038 in the Knox County Register of Deeds Office. ALSO BEING a portion of the same property conveyed to St. Mary's Health System, Inc., by Warranty Deed from Franklin Eugene Watkins and wife, Rose Kathryn Watkins, dated February 5, 2003, filed for record as Instrument No. 200302060069420 in the Knox County Register of Deeds Office. ALSO BEING the property conveyed by Quit Claim Deed from Knox County, Tennessee, to St. Mary's Health System, Inc., dated September 22, 2004, filed for record as Instrument No. 200409230025344 in the Knox County Register of Deeds Office. St. Mary's Health System, Inc. changed its name to Mercy Health System, Inc., pursuant to Articles of Amendment to the Charter (Nonprofit) dated December 18, 2009, filed for record as Instrument No. 200912290043594 in the Knox County Register of Deeds Office. ALSO BEING a portion of the same property conveyed to Mercy Health System, Inc., by Warranty Deed from Birdie Hawkins and the Birdie Lee Hawkins Charitable Remainder Unitrust, Steven A. Albright and Birdie Lee Hawkins, Co-Trustees, dated February 1, 2010, filed for record as Instrument No. 201002030050794 in the Knox County Register of Deeds Office.

TRACT II

SITUATED in the Sixth (6th) Civil District of Knox County, Tennessee, without the corporate limits of the City of Knoxville, Tennessee, and being all of Lots 5R1, 5R2 and 5R3 of the Resubdivision of Lot 1R-1 of the St Mary's Health System S/D and Lot 5 of the Final Plat of Dannaher Place = Unit 1 and Resubdivision of Lots 1, 2, 3 and 4 of the Final Plat of Dannaher Place = Unit 2, dated April 26, 2010, last revised June 1, 2010, filed for record as Instrument No. 201007150002987 (consisting of five (5) sheets) in the Knox

County Register of Deeds Office, to which plat specific reference is hereby made for a more particular description of said lots.

BEING a portion of the same property conveyed to Mercy Health System, Inc., by Warranty Deed from Birdie Hawkins and the Birdie Lee Hawkins Charitable Remainder Unitrust, Steven A. Albright and Birdie Lee Hawkins, Co-Trustees, dated February 1, 2010, filed for record as Instrument No. 201002030050794 in the Knox County Register of Deeds Office.

BEING the same property conveyed to Metro Knoxville HMA, LLC, a Tennessee limited liability company, by Special Warranty Deed from Mercy Health System, Inc., a Tennessee non-profit, public benefit corporation, dated September ____, 2011, filed for record as Instrument No. 201110050018470 in the Knox County Register of Deeds Office.

201110050018470

Attachment A-6B.1

Site Plan

X:\Mercy\Sundown Properties\dwg\Final Design\ Mercy North Campus Exhibit.dwg Sep 16, 2010 - 1:51pm mwprinter - LDS Copyright 2010

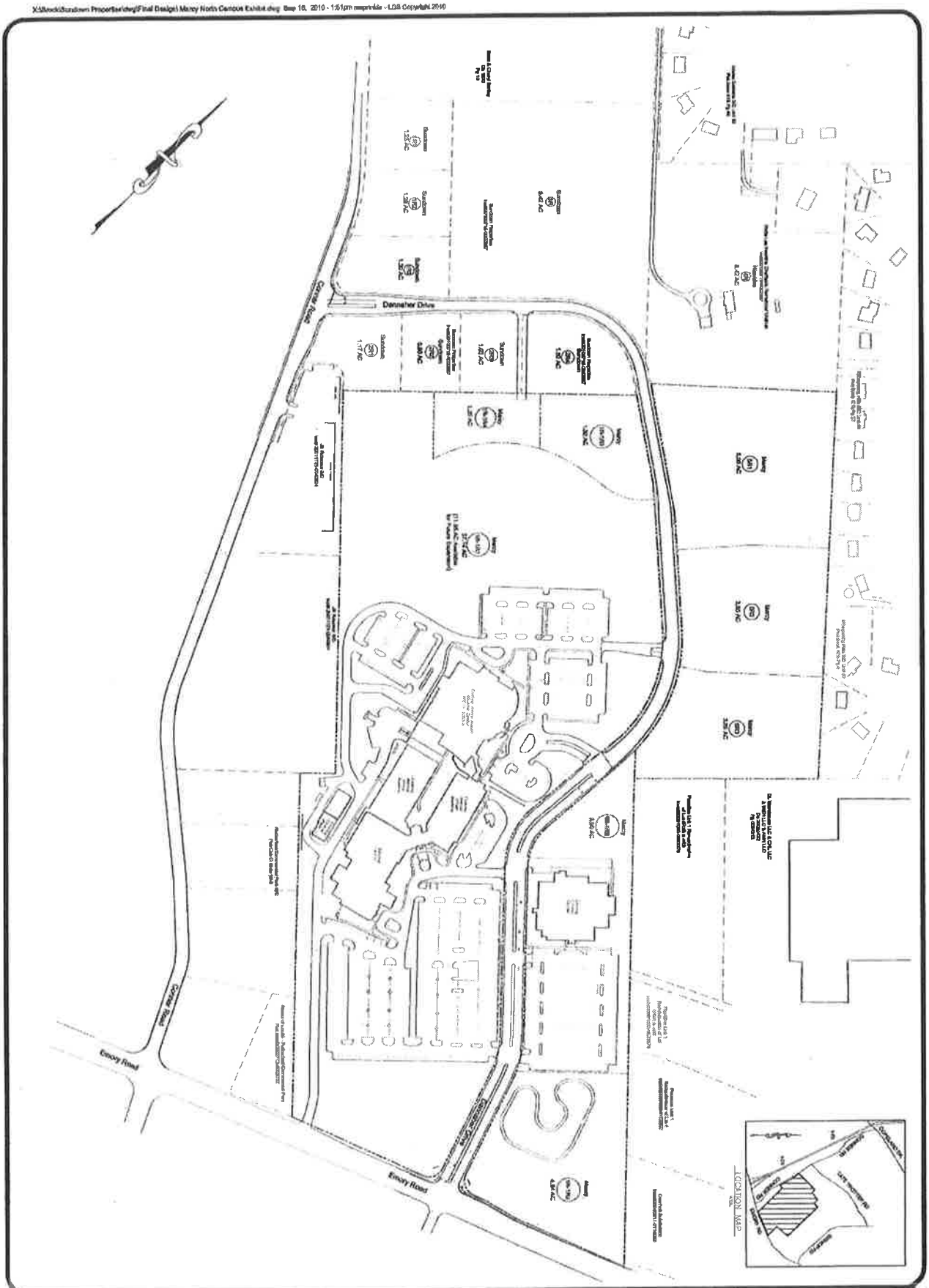


Exhibit 1

No.	Date	Revision

Drawing Description:

Mercy North Campus

LAND DEVELOPMENT SOLUTIONS

310 SIMMONS RD., SUITE K-KNOXVILLE, TENNESSEE 37922
PH 865-671-2281

Project:

Mercy North Campus

Mercy Health Partners

Knoxville, Tennessee

Attachment A-6B.2

Cardiac Cath Lab Floor Plans

Second Floor Suite Schedule

Suite Number	Smoke Compartment	Total Square Footage	Area Description	of Remote Exit Access Doors	Suite Type
2.1	SC2.1	1,629	WAITING/LOBBY	2	NON SLEEPING
2.2	SC2.1	2,441	LOBBY	2	NON SLEEPING
2.3	SC2.2	2,959	CATH LAB	2	NON SLEEPING
2.4	SC2.2	481	SPILCALL	2	SLEEPING
2.5	SC2.1	6,567	PACU RECOVERY	2	NON SLEEPING
2.6	SC2.1	2,949	PACU	2	NON SLEEPING
2.7	SC2.3	8,828	SURGERY	4	NON SLEEPING

Second Floor Smoke Compartments

Smoke Compartment	Total Square Footage	Occupancy Type	Travel Distance to Exit	Travel Distance to Smoke Barrier
SC2.1	22,470	EXISTING HEALTHCARE	177'	150'
SC2.2	7,249	EXISTING HEALTHCARE	120'	73'
SC2.3	12,804	EXISTING HEALTHCARE	187'	104'

Life Safety Information

Building Code Reviewed: NFPA 101 Life Safety Code (2012 Edition)
Construction Type: I(332)
Occupancy Type: Existing Healthcare Business

Life Safety Legend

SMOKE COMPARTMENT BARRIER WALL

1 HOUR FIRE RESISTANCE RATING

OPENING PROTECTION: 1 3/4" THICK SOLID BONDED WOOD CORE DOORS OR BY CONSTRUCTION THAT RESISTS FIRE FOR NOT LESS THAN 20 MINUTES

DOORS SHALL BE SELF CLOSING OR AUTOMATIC CLOSING. DOORS SHALL NOT BE REQUIRED TO SWING IN THE DIRECTION OF EGRESS TRAVEL

1 HOUR FIRE RATED BARRIER

OPENING PROTECTION: 1 HOUR FIRE RATED DOORS FOR VERTICAL OPENING OR EXIT ENCLOSURES

OPENING PROTECTION: 3/4 HOUR FIRE RATED DOORS WHERE USED FOR OTHER THAN VERTICAL OPENINGS OR EXIT ENCLOSURES

DOORS SHALL BE SELF CLOSING OR AUTOMATIC CLOSING

2 HOUR FIRE RATED BARRIER

OPENING PROTECTION: 1 1/2 HOUR FIRE RATED DOORS

DOORS SHALL BE SELF CLOSING OR AUTOMATIC CLOSING

EXIT ACCESS CORRIDOR

WALLS SHALL FORM A BARRIER TO LIMIT THE TRANSFER OF SMOKE

CORRIDOR DOORS: 1 3/4" THICK SOLID BONDED CORE WOOD OR BY CONSTRUCTION THAT RESISTS FIRE FOR NOT LESS THAN 20 MINUTES. DOORS HARDWARE SHALL BE POSITIVE LATCHING WITH THE EXCEPTION OF TOILET ROOMS, BATHROOMS, SHOWER ROOMS, LINE CLOSETS AND SIMILAR AUXILIARY SPACES THAT DO NOT CONTAIN FLAMMABLE OR COMBUSTIBLE MATERIALS

SMOKE PARTITION

WALLS SHALL FORM A BARRIER TO LIMIT THE TRANSFER OF SMOKE

CORRIDOR DOORS: 1 3/4" THICK SOLID BONDED CORE WOOD OR BY CONSTRUCTION THAT RESISTS FIRE FOR NOT LESS THAN 20 MINUTES. DOORS HARDWARE SHALL BE POSITIVE LATCHING WITH THE EXCEPTION OF TOILET ROOMS, BATHROOMS, SHOWER ROOMS, LINE CLOSETS AND SIMILAR AUXILIARY SPACES THAT DO NOT CONTAIN FLAMMABLE OR COMBUSTIBLE MATERIALS

SUITES

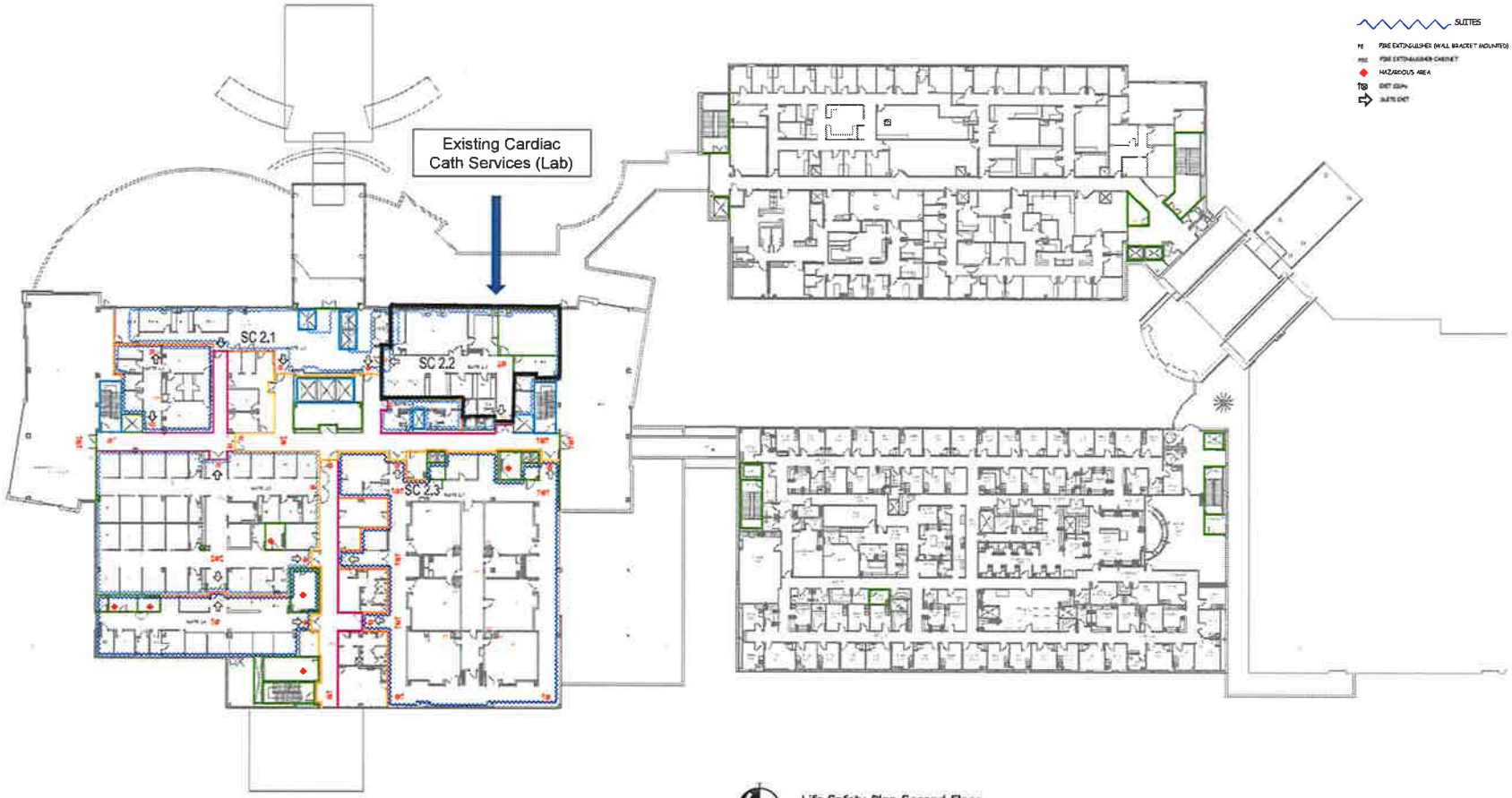
FE FIRE EXTINGUISHER (WALL BRACKET MOUNTED)

FEC FIRE EXTINGUISHER CABINET

HAZARDOUS AREA

EXIT SIGN

SUITE EXIT



Life Safety Plan Second Floor
1"=20'

Tennova Healthcare

Life Safety Assessment
Powell Tennessee

Life Safety Plan Second Floor

Revisions

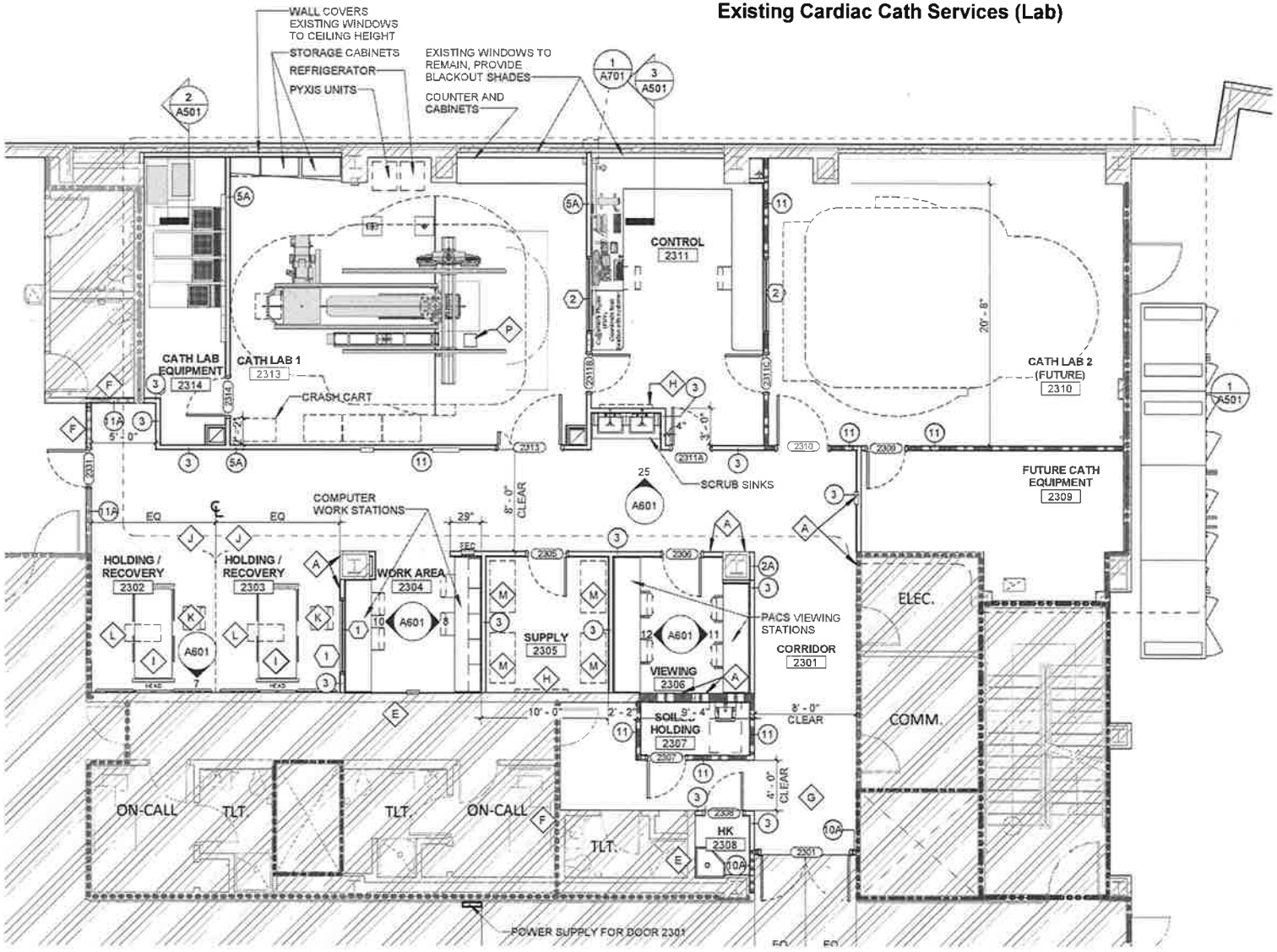
HMI ARCHITECTURE

Project Number
CDM.1705

Date
June 22, 2017

Sheet Number
a1.2

North Knoxville Medical Center
Existing Cardiac Cath Services (Lab)



Attachment A-6B.3

Public Transportation Information

IMPORTANT NUMBERS

Area code for all numbers below is 865 unless otherwise noted.

CAC Transit.....524-0319

Transportation Counselor.....546-6262
(answers phone as Senior Citizens Information & Referral Service)

CAC Volunteer Assisted Transportation.....673-5001

KAT.....637-3000

KAT LIFT.....215-7850

TennCare Transportation

TennCare provides transportation for eligible enrollees when family is not available to provide transportation to medical and mental health appointments. To arrange transportation, call one of the numbers below, and they will help you arrange a ride.

Amerigroup.....1-866-680-0633
(For Amerigroup patients)

SoutheasTrans.....1-866-473-7563
(For BlueCare and TennCare Select patients)

United HealthCare..1-866-405-0238
(For United HealthCare patients)

CAC

Knoxville-Knox County Community Action Committee

Helping People. Changing Lives.

Please Contact Us!

The CAC Transit office is located at the
L.T. Ross Building
2247 Western Avenue
Knoxville, TN 37921

Mailing Address:
Knox County CAC Transit
P.O. Box 51650
Knoxville, TN 37950-1650

Call:
(865) 524-0319

Email:
karen.estes@cactrans.org

Visit our website:
www.knoxcac.org

Knox County CAC Transit

(865) 524-0319

Transportation Services for Knox County Residents

Transportation Services for Residents of Knoxville and Knox County

This guide is provided by Knox County CAC Transit

KNOX COUNTY CAC TRANSIT

INFORMATION: 524-0319
WEB SITE: www.knoxseniors.org/transit.html

- Provides door-to-door transportation services to the residents of Knoxville and Knox County who live outside the KAT service area.
- Transportation is provided to medical appointments, grocery shopping, and other essential errands.
- Transportation is provided to employment and training 24/7, however, funding is limited.
- Lift-equipped vehicles available.
- Rides must be scheduled by no later than 11:00 a.m. the day before your appointment. Office hours for scheduling are Monday—Friday, between 8:00 a.m.—4:45 p.m.
- New riders must complete a CAC Transit application.
- Call CAC Transit for fare information and hours of service.

KAT

INFORMATION: 637-3000
WEB SITE: www.katbus.com

- KAT (Knox Area Transit) offers bus services, including wheelchair-accessible services, within defined service areas in the City of Knoxville.
- People with disabilities and people over age 65 qualify for a reduced rate with their Medicare cards or KAT IDs.
- Call KAT for schedules, hours of service, and fare information, or visit the KAT web site.

KAT LIFT

INFORMATION: 215-7850
WEB SITE: www.katbus.com

- Provides door-to-door transportation services within the KAT LIFT service area for passengers with disabilities (as defined by ADA).
- Lift-equipped vehicles available.
- Passengers must apply and be certified to use KAT LIFT.
- Call KAT LIFT, or visit the web site, for hours of service, fare information, and certification process.

CAC VOLUNTEER ASSISTED TRANSPORTATION (VAT)

INFORMATION: 673-5001
WEB SITE: www.knoxseniors.org/vat.html

- VAT uses volunteer drivers and agency-owned vehicles to provide transportation for eligible seniors and people with disabilities who require assistance to travel safely.
- Wheelchair-accessible vehicles available.
- Application must be completed before scheduling trips.
- Call VAT for fare information and hours of service.

TAXICABS

- See Yellow Pages under "Taxicabs" for names and phone numbers of companies.
- To report taxicab complaints, call the Taxicab Inspector at 215-7379.

Bad Weather Policy

If bad weather arises please call the weather line listed below for information related to transportation closings. ETHRA also updates the media outlets and information may also be available on television or radio.

Weather Line:1-877-821-6232

Pick-Up

Passengers should be ready for pick up at least one (1) hour plus drive time before scheduled appointment time.

Return Pick-up

ETHRA Public Transit has a window of pick-up: vehicles will not be considered late until one (1) hour, plus driving time, after scheduled time for pick-up. Every effort will be made to notify the passenger if the driver is running beyond this time window of pick-up time.

No show and Cancellations

In order to insure timeliness of service, drivers will wait up to five (5) minutes at a pick-up location, After (5) minutes, the customer will be considered a no-show. Cancellations should be made at least two (2) hours before the scheduled pick-up time. If a trip is not cancelled it will be considered a no-show and the Customer will be responsible to pay for the trip.

Fare Structure

In county trips: $3.00 per trip. $6.00 per roundtrip. An additional $3.00 is charged per county line crossed. Additional stops are $1.00. Children under (6) ride for half-fare. Escorts or attendants ride without charge. These fares do not apply to customers that qualify for contract with

Non-Discrimination

ETHRA Public Transit is committed to maintaining an environment free of discrimination. No persons in the United States shall, on the grounds of race, color, age, sex, disability, national origin, gender identify or sexual orientation be excluded from participation in, be denied the benefit of, or be subjected to discrimination under a program or activity receiving federal financial assistance from the Department of Transportation.

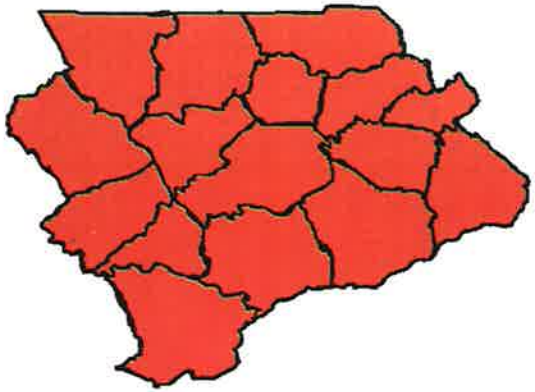
ethra
East Tennessee Human Resource Agency

Thank you for choosing ETHRA Public Transit. If you need a ride, please call! We look forward to helping you get where you need to go! ETHRA Public Transit's goal is to provide affordable, safe, dependable public transportation. In order to meet this goal we ask that all passengers become familiar with the information in this booklet. If you have questions, or need additional assistance, please call us at 1-800-232-1565. This project is funded under an agreement with the Department of Transportation.

Customers reserve the right to submit any complaints regarding ETHRA Transit services.
Please call Customer Service at 1-800-232-1565.
*TTY:*1-800-848-0298
ETHRA welcomes questions, comments and suggestions.

Alternate formats of this publication are available upon request.

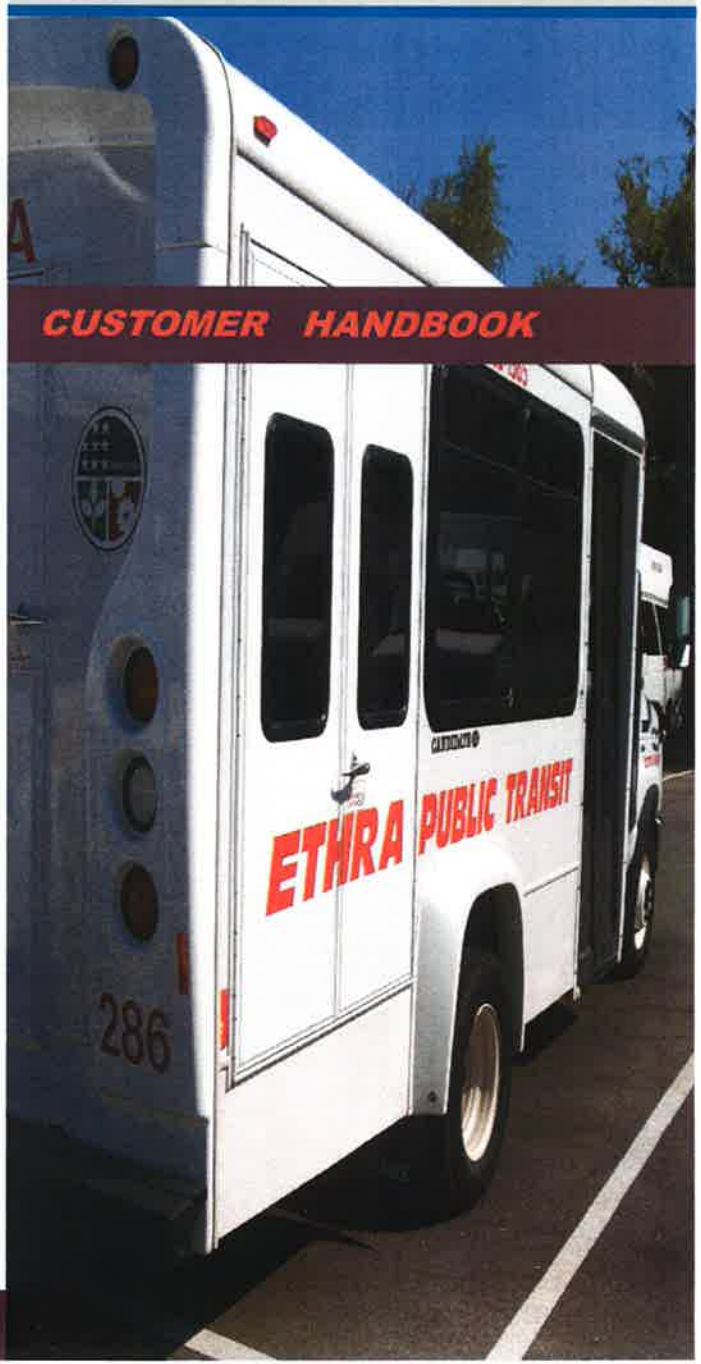
www.ethrapublictransit.org
www.ethra.org



9111 Cross Park Drive
Knoxville, TN 37923
1-800-232-1565

EAST TENNESSEE HUMAN RESOURCE AGENCY

1-800-232-1565 **PUBLIC TRANSIT**



EAST TENNESSEE HUMAN RESOURCE AGENCY

DRIVER RESPONSIBILTIES

- Drivers are required to assist passengers with packages (a limit of three (3) per customer to be secured in the back of the vehicle).
- Drivers operate on a no-gift acceptance policy. They are not to be tipped or given any gift for their job.
- Drivers are required to assist upon boarding and leaving the vehicle, and assist in loading and unloading packages.
- Drivers are not allowed, under any circumstance, to enter a passenger's home.
- Drivers are not allowed to sign any passenger from any type of medical facility or school.
- Drivers are not allowed to sign for any medication.
- Drivers cannot assist in administering medicine, using the restroom, getting dressed or helping a passenger get inside the house.

PASSENGER RESPONSIBILITIES

- Passengers must wear seat belts while in transit aboard vehicle.
- There is no smoking, no chewing tobacco and no eating while inside the vehicle.
- Passengers will maintain orderly conduct while inside the vehicle. No loud, violent or abusive conduct (physical or verbal) will be permitted.
- Rude, vulgar or unwelcome comments to the driver or other passengers will not be permitted.
- Passengers carrying or using alcoholic beverages and/or illegal substances will not be permitted to ride.
- ETHRA is not responsible for lost or stolen items.
- Passengers are responsible for their own belongings.
- Passengers should have the ability to manage themselves during their transit.
- Passengers must request all stops at the time of reserving their trips.
- Passengers must pay fares to the driver upon boarding the vehicle.
- Passengers should be neat and clean, so not to offend others. Passengers are allowed one escort or attendant, without charge, if they are less than 18 years of age or need physical assistants in performing common tasks.
- Packages should be limited to three (3) per passenger and should be secured in the back of the vehicle.

PASSENGER RESPONSIBILITIES

- Passengers transported in a wheelchair must be properly secured.
- Animals are not allowed on the vehicle, except service animals for the disabled, as defined under ADA guidelines.
- Portable oxygen tanks must be secured while in transport.
- Passengers under five (5) must be transported in a child restraint seat.
- Passengers should not tip or give a gift to drivers for doing their job.
- Persons or caregivers of persons who may experience difficulty complying with any of these policies due to a disability are encouraged to speak with the ETHRA Reasonable Modification contact at 1-800-232-1565 prior to their trip with ETHRA Transit as actions may be taken to better accommodate the passenger.

Any questions about the policies listed please contact us at: 1-800-232-1565.

ETHRA PUBLIC TRANSIT reserves the right to refuse to transport any passenger that fails to adhere to the above policies.

Passenger Assistance

ETHRA Public Transit is responsible for providing door-to-door service. All drivers are required to assist each passenger in and out of the vehicle. Disabled passengers, passengers transported in a wheelchair, or passengers that need assistance in performing common tasks are allowed to have an escort or attendant to assist them. This escort or attendant can ride without charge.

Passengers who would like to request a reasonable accommodation may contact Customer Service.

Customer Service Coordinator at 865-691-2551 or gmcalpin@ethra.org .

Attachment A-10A

Licensed Bed Complement – Tennova Healthcare

Attachment A.10A

Bed Complement for Metro Knoxville HMA, LLC d/b/a Tennova Healthcare*

10. Bed Complement Data

A. Please indicate current and proposed distribution and certification of facility beds.

	Current Licensed	Beds Staffed	Beds Proposed	*Beds Approved	**Beds Exempted	TOTAL Beds at Completion
1) Medical *(combined med/surg)*	415	309		1		416
2) Surgical						
3) ICU/CCU	64	56		4		68
4) Obstetrical	48	32				48
5) NICU	15	6		-5		10
6) Pediatric						
7) Adult Psychiatric	20	16				20
8) Geriatric Psychiatric	18	12				18
9) Child/Adolescent Psychiatric						
10) Rehabilitation	30	16				30
11) Adult Chemical Dependency						
12) Child/Adolescent Chemical Dependency						
13) Long-Term Care Hospital						
14) Swing Beds						
15) Nursing Home – SNF (Medicare only)						
16) Nursing Home – NF (Medicaid only)						
17) Nursing Home – SNF/NF (dually certified Medicare/Medicaid)						
18) Nursing Home – Licensed (non-certified)						
19) ICF/IID						
20) Residential Hospice						
TOTAL	610	447		0		610

*Beds approved but not yet in service

**Beds exempted under 10% per 3 year provision

*Metro Knoxville HMA, LLC consists of three hospital campuses in the Knoxville area, which have a combined total of 610 licensed beds and are operated under a single hospital license and Medicare provider number. Physicians Regional Medical Center is the main campus with 401 licensed beds. Satellite hospitals include the 108-bed North Knoxville Medical Center and the 101-bed Turkey Creek Medical Center. The bed complement above was approved through CN1408-033, Metro Knoxville HMA, d/b/a Tennova Healthcare – Physicians Regional Medical Center's partial hospital relocation.

Attachment B-Need-A.2

Licensure and Accreditation Documents

Board for Licensing Health Care Facilities

State of Tennessee

0000000045

No. of Beds 0610

DEPARTMENT OF HEALTH

This is to certify, that a license is hereby granted by the State Department of Health to

METRO KNOXVILLE HMA, LLC *to conduct and maintain a*

Hospital TENNOVA HEALTHCARE

Located at 900 EAST OAK HILL AVENUE, KNOXVILLE

County of KNOX *, Tennessee.*

This license shall expire JANUARY 01 *,* 2019 *, and is subject to the provisions of Chapter 11, Tennessee Code Annotated. This license shall not be assignable or transferable, and shall be subject to revocation at any time by the State Department of Health, for failure to comply with the laws of the State of Tennessee or the rules and regulations of the State Department of Health issued thereunder.*

In Witness Whereof, we have hereunto set our hand and seal of the State this 28TH *day of* NOVEMBER *,* 2017 .

In the Distinct Category(ies) of: GENERAL HOSPITAL
PEDIATRIC BASIC HOSPITAL

By Vincent J. Davis, MPH
DIRECTOR, DIVISION OF HEALTH CARE FACILITIES

By John J. Dreyzehner MD
COMMISSIONER

The Joint Commission

September 15, 2017

Tony Benton, CEO
CEO
Metro Knoxville HMA LLC
900 E. Oak Hill Avenue
Knoxville, TN 37917

Joint Commission ID #: 7852
Program: Hospital Accreditation
Accreditation Activity: 60-day Evidence of Standards Compliance
Accreditation Activity Completed: 09/15/2017

Dear Mr. Benton:

The Joint Commission is pleased to grant your organization an accreditation decision of Accredited for all services surveyed under the applicable manual(s) noted below:

- **Comprehensive Accreditation Manual for Hospitals**

This accreditation cycle is effective beginning July 01, 2017 and is customarily valid for up to 36 months. Please note, The Joint Commission reserves the right to shorten or lengthen the duration of the cycle.

Should you wish to promote your accreditation decision, please view the information listed under the 'Publicity Kit' link located on your secure extranet site, The Joint Commission Connect.

The Joint Commission will update your accreditation decision on Quality Check®.

Congratulations on your achievement.

Sincerely,

Mark Pelletier

Mark G.Pelletier, RN, MS

Chief Operating Officer

Division of Accreditation and Certification Operations

cc: Sharon
Kristen
Daniel
Dru

Department of Health & Human Services
Centers for Medicare & Medicaid Services
61 Forsyth Street, SW, Suite 4T20
Atlanta, Georgia 30303-8909

CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES

November 15, 2017

Tony Benton, Chief Executive Officer
Tennova Healthcare
900 East Oak Hill Avenue
Knoxville, TN 37917

Re: CMS Certification Number 44-0120

Dear Mr. Benton:

I am pleased to inform you that as a result of the follow-up survey conducted on November 9, 2017 by the Tennessee State Agency, your facility was found in compliance with the Medicare requirements to participate as a Hospital and will continue to be deemed to meet applicable Medicare requirements based upon accreditation by the Joint Commission.

We appreciate your efforts and steps taken to correct the Medicare deficiencies. If you have any questions, please contact Jackie Whitlock at (404) 562-7437 or jacqueline.whitlock@cms.hhs.gov.

Sincerely yours,

Jackie Whitlock for

Sandra M. Pace
Associate Consortium Administrator
Division of Survey and Certification

cc: Tennessee State Survey Agency
Joint Commission (JC)

Tennova™
Healthcare

September 12, 2017

Centers for Medicare & Medicaid Services
ATTN: Sandra M. Pace
61 Forsyth Street, SW, Suite 4T20
Atlanta, Georgia 30303-8909

State of Tennessee Department of Health
ATTN: Gail Rubright
7175 Strawberry Plains Pike, Suite 103
Knoxville, Tennessee 37914

Re: CMS Certification Number 440120
Validation Survey – ***Revised***

Dear Ms. Pace and Ms. Rubright:

This letter and the enclosed *revised* Plan of Correction are in response to the letter from CMS dated August 30, 2017 – which we received on August 31, 2017 – in regards to the validation survey completed at our facilities on August 16, 2017. We trust you will find the actions we have taken acceptable. We have also enclosed a number of key supporting documents reflecting the implementation of these actions and improvements.

Please let me know if you have any questions. We appreciate your help with this process.

Sincerely,

Tony Benton
Chief Executive Officer

Enclosures
Via Facsimile and Overnight Delivery

STATEMENT OF DEFICIENCIES AND PLAN OF CORRECTION	(X1) PROVIDER/SUPPLIER/CLIA IDENTIFICATION NUMBER:	(X2) MULTIPLE CONSTRUCTION	(X3) DATE SURVEY COMPLETED
	440120	A. BUILDING _____ B. WING _____	08/16/2017

NAME OF PROVIDER OR SUPPLIER	STREET ADDRESS, CITY, STATE, ZIP CODE
TENNOVA HEALTHCARE	860 EAST OAK HILL AVENUE KNOXVILLE, TN 37917

(X4) ID PREFIX TAG	SUMMARY STATEMENT OF DEFICIENCIES (EACH DEFICIENCY MUST BE PRECEDED BY FULL REGULATORY OR LSC IDENTIFYING INFORMATION)	ID PREFIX TAG	PROVIDER'S PLAN OF CORRECTION (EACH CORRECTIVE ACTION SHOULD BE CROSS-REFERENCED TO THE APPROPRIATE DEFICIENCY)	(X5) COMPLETION DATE
A 084	Continued From page 3 Interview with the Dialysis Inpatient Program Manager (DIPM) on 8/16/17 at 10:45 AM, in the dialysis water treatment room, confirmed the correct location for obtaining water samples for total chlorine testing is the SP1 valve located between the first and second carbon filters and the facility failed to follow facility policy.	A 084	Pg. 3-4 of 44	
A 454	482.24(c)(2) CONTENT OF RECORD: ORDERS DATED & SIGNED All orders, including verbal orders, must be dated, timed, and authenticated promptly by the ordering practitioner or by another practitioner who is responsible for the care of the patient only if such a practitioner is acting in accordance with State law, including scope-of-practice laws, hospital policies, and medical staff bylaws, rules, and regulations. This STANDARD is not met as evidenced by: Based on review of facility policy, medical record review, and interview, the facility failed to ensure physician's orders were timed and dated for 1 patients (#2) of 60 medical records reviewed. The findings included: Review of facility policy "Medication Orders" dated 6/7/17 revealed "...date and time the order..." Medical record review revealed Patient #2 was admitted to Facility A on 8/14/17 for a Suicide Attempt. Medical record review revealed a physician's	A 454	Pg. 5-6 of 44	

STATEMENT OF DEFICIENCIES AND PLAN OF CORRECTION	(X1) PROVIDER/SUPPLIER/CLIA IDENTIFICATION NUMBER:	(X2) MULTIPLE CONSTRUCTION	(X3) DATE SURVEY COMPLETED
	440120	A. BUILDING _____ B. WING _____	08/16/2017

NAME OF PROVIDER OR SUPPLIER	STREET ADDRESS, CITY, STATE, ZIP CODE
TENNOVA HEALTHCARE	900 EAST OAK HILL AVENUE KNOXVILLE, TN 37917

(X4) ID PREFIX TAG	SUMMARY STATEMENT OF DEFICIENCIES (EACH DEFICIENCY MUST BE PRECEDED BY FULL REGULATORY OR LSC IDENTIFYING INFORMATION)	ID PREFIX TAG	PROVIDER'S PLAN OF CORRECTION (EACH CORRECTIVE ACTION SHOULD BE CROSS-REFERENCED TO THE APPROPRIATE DEFICIENCY)	(X5) COMPLETION DATE
A 466	Continued From page 12 was signed on 8/14/17 at 12:12 PM (31 hours and 50 minutes after the baby was born). Interview with Nurse Leader #6, Quality Coordinator #1, and RN #8 on 8/15/17 at 11:15 AM, in Facility A L&D nurses' station, confirmed the facility failed to ensure consent for Inpatient/Outpatient Conditions of Admission and Consent to Medical Treatment was signed, dated, and timed prior to treatment and failed to follow facility policy. Interview with RN #3 on 8/15/17 at 3:50 PM, in Facility B's Labor and Delivery nurses' station, confirmed there was no signed consent for treatment form in the medical record for Patient #47. Interview with the Metro Chief Quality Officer on 8/16/17 at 12:56 PM, in Facility A Conference Room, confirmed the facility failed to follow facility policy.	A 466	Pg 7-8 of 44	
A 749	482.42(a)(1) INFECTION CONTROL PROGRAM The infection control officer or officers must develop a system for identifying, reporting, investigating, and controlling infections and communicable diseases of patients and personnel. This STANDARD is not met as evidenced by: Based on facility policy review, review of facility document, medical record review, observation, and interview, the facility failed to ensure intravenous sites (IV) were timed and dated when inserted for 3 patients (#23, #25, #37) of 4 patients observed with peripheral IV's; failed to	A 749	Pg 9-13 of 44	

STATEMENT OF DEFICIENCIES AND PLAN OF CORRECTION	(X1) PROVIDER/SUPPLIER/CLIA IDENTIFICATION NUMBER:	(X2) MULTIPLE CONSTRUCTION	(X3) DATE SURVEY COMPLETED
	440120	A. BUILDING _____ B. WING _____	08/16/2017

NAME OF PROVIDER OR SUPPLIER	STREET ADDRESS, CITY, STATE, ZIP CODE
TENNOVA HEALTHCARE	930 EAST OAK HILL AVENUE KNOXVILLE, TN 37917

(X4) ID PREFIX TAG	SUMMARY STATEMENT OF DEFICIENCIES (EACH DEFICIENCY MUST BE PRECEDED BY FULL REGULATORY OR LSC IDENTIFYING INFORMATION)	ID PREFIX TAG	PROVIDER'S PLAN OF CORRECTION (EACH CORRECTIVE ACTION SHOULD BE CROSS-REFERENCED TO THE APPROPRIATE DEFICIENCY)	(X5) COMPLETION DATE
A 749	Continued From page 13 ensure expired patient care supplies were not available for patient use in 2 of 3 Emergency Departments (ED), in 1 of 2 Special Care Nurseries observed, in 6 of 45 clean supply storage areas observed, and 1 of 2 Post-Operative Care Units (PACU); failed to maintain a sanitary environment in 1 of 4 laboratories observed; and failed to ensure expired medications were not available for patient use in 2 of 22 medication storage areas observed. The findings included: Review of a facility policy "Nursing Procedures" dated 8/2/16 revealed "...Refer to Mosby's [medical textbook] and/or AACN [American Association of Critical-Care Nurses] for procedures (ex [example] IV Therapy)..." Review of facility policy "Stock Rotation and Expiration Policy" dated 3/9/17 revealed "...Expired products and devices shall not be made available for patient use...Expiration dates must be monitored on a regular basis...special attention must be given to expiration dates...the expiration dates of products and devices shall be checked during the routine review of area inspections and all products and devices scheduled to expire during the next month shall be removed...each department manager should conduct a quarterly review of supplies checking for expired or close dates..." Review of facility document "Elsevier Performance Manager" (healthcare education and learning management system), with no date, revealed "...label the dressing...with the date and time of application and the nurse's	A 749	pg. 9-10 of 44 pg 10-12 of 44 pg. 9-10 of 44	

STATEMENT OF DEFICIENCIES AND PLAN OF CORRECTION	(X1) PROVIDER/SUPPLIER/CLIA IDENTIFICATION NUMBER:	(X2) MULTIPLE CONSTRUCTION	(X3) DATE SURVEY COMPLETED
	440120	A. BUILDING _____ B. WING _____	08/16/2017

NAME OF PROVIDER OR SUPPLIER	STREET ADDRESS, CITY, STATE, ZIP CODE
TENNOVA HEALTHCARE	900 EAST OAK HILL AVENUE KNOXVILLE, TN 37917

(X4) ID PREFIX TAG	SUMMARY STATEMENT OF DEFICIENCIES (EACH DEFICIENCY MUST BE PRECEDED BY FULL REGULATORY OR LSC IDENTIFYING INFORMATION)	ID PREFIX TAG	PROVIDER'S PLAN OF CORRECTION (EACH CORRECTIVE ACTION SHOULD BE CROSS-REFERENCED TO THE APPROPRIATE DEFICIENCY)	(X5) COMPLETION DATE
A 749	Continued From page 14 Initials...Rational: A label provides immediate access to data regarding when the IV catheter was inserted and when to change the dressing and rotate the site...inspect the color of the insertion site and check for swelling...unexpected outcomes...bleeding at venipuncture site..." Medical record review revealed Patient #25 was admitted to Facility A on 8/13/17 for Left Sided Weakness. Observation and interview with Registered Nurse (RN) #4, on 8/14/17 at 1:13 PM, in the Neurosurgical Intensive Care Unit (ICU), revealed an Intravenous (IV) line in the left forearm. Continued review revealed the IV site was not dated, timed, or initialed by the staff member who inserted the IV. Interview with RN #4 confirmed the IV should have been dated, timed, and initialed with the insertion date. Medical record review revealed Patient #23 was admitted to Facility A on 8/11/17 for Chest Pain. Observation and interview with Nurse Leader (NL) #1 of Patient #23 on 8/14/17 at 2:18 PM, in the patient's room, revealed the patient had an IV line in the right forearm. Continued observation revealed the IV site was not dated, timed, or initialed by staff member who inserted the IV. Interview with NL #1 confirmed the site was not dated, timed, or initialed when inserted. Medical record review revealed Patient #37 was admitted to Facility A on 8/15/17 for a Right Partial Knee Replacement. Observation of Patient #37 on 8/15/17 at 2:09 PM, in the patient's room, revealed the patient	A 749	pg 9-10 of 44	

STATEMENT OF DEFICIENCIES AND PLAN OF CORRECTION	(X1) PROVIDER/SUPPLIER/CLIA IDENTIFICATION NUMBER:	(X2) MULTIPLE CONSTRUCTION	(X3) DATE SURVEY COMPLETED
	440120	A. BUILDING _____ B. WING _____	08/16/2017

NAME OF PROVIDER OR SUPPLIER	STREET ADDRESS, CITY, STATE, ZIP CODE
TENNOVA HEALTHCARE	900 EAST OAK HILL AVENUE KNOXVILLE, TN 37917

(X4) ID PREFIX TAG	SUMMARY STATEMENT OF DEFICIENCIES (EACH DEFICIENCY MUST BE PRECEDED BY FULL REGULATORY OR LSC IDENTIFYING INFORMATION)	ID PREFIX TAG	PROVIDER'S PLAN OF CORRECTION (EACH CORRECTIVE ACTION SHOULD BE CROSS-REFERENCED TO THE APPROPRIATE DEFICIENCY)	(X5) COMPLETION DATE
A 749	Continued From page 15 had an IV in the left hand. Continued observation revealed the IV was not dated, timed, or initialed by the staff member who inserted the IV. Interview with NL #5 on 8/15/17 at 2:15 PM, at the nurses' station, confirmed the IV should be dated, timed, and initialed upon insertion. Observation and interview with the Emergency Department (ED) Director on 8/14/17 at 11:13 AM, in the ED clean utility room at Facility A, revealed 5 blue top vacutainers (used to collect blood) and one blood culture specimen bottle with an expiration date of 6/30/17. Interview with the ED Director confirmed the vacutainers and blood culture bottle were expired and were available for patient use. Observation and interview with the Special Care Nursery NL on 8/14/17 at 11:15 AM, of a supply storage area in the Special Care Nursery at Facility A, revealed 3 Special Needs Feeders (bottle and nipple use for infants with impaired sucking ability) with an expiration date of 1/2017. Interview with the NL confirmed the special needs feeders were expired and were available for patient use. Observation and interview with the Laboratory Director at Facility A, on 8/14/17 at 1:25 PM, in the microbiology lab, revealed an air conditioner vent with a buildup of white debris. Continued observation revealed a fan was positioned in front of the air conditioning unit and was blowing air toward the microbiology table. Further observation revealed a laboratory technician was seated at the table processing microbiology specimens. Interview with the Laboratory Director confirmed the debris was able to be removed with tissue paper and she was not aware of when the	A 749	Pg 9-10 of 44 Pg. 10-12 of 44 Pg 12-13 of 44	

STATEMENT OF DEFICIENCIES AND PLAN OF CORRECTION	(X1) PROVIDER/SUPPLIER/CLIA IDENTIFICATION NUMBER:	(X2) MULTIPLE CONSTRUCTION	(X3) DATE SURVEY COMPLETED
	440129	A. BUILDING _____ B. WING _____	08/16/2017

NAME OF PROVIDER OR SUPPLIER	STREET ADDRESS, CITY, STATE, ZIP CODE
TENNOVA HEALTHCARE	900 EAST OAK HILL AVENUE KNOXVILLE, TN 37917

(X4) ID PREFIX TAG	SUMMARY STATEMENT OF DEFICIENCIES (EACH DEFICIENCY MUST BE PRECEDED BY FULL REGULATORY OR LSC IDENTIFYING INFORMATION)	ID PREFIX TAG	PROVIDER'S PLAN OF CORRECTION (EACH CORRECTIVE ACTION SHOULD BE CROSS-REFERENCED TO THE APPROPRIATE DEFICIENCY)	(X5) COMPLETION DATE
A 749	Continued From page 16 air conditioning vent was last cleaned. Observation and interview with the Risk Manager (RM) and NL #1 on 8/14/17 at 1:56 PM at Facility A, in the Neuro ICU Clean Supply room, revealed a 18 french (Fr) 30 cubic centimeter (cc) (size of the catheter and balloon) catheter with an expiration date of May 2016 and a 22 Fr 30 cc catheter with an expiration date of September 2015. Interview with the RM and NL #1 confirmed the items were expired and were available for patient use. Observation and interview with the Director of Operations for Inpatient Services for the Dialysis department at Facility A on 8/14/17 at 2:30 PM, in the Dialysis department, revealed the following: 1 package of five electrodes with an expiration date of 2/2017and 1 package of five electrodes with an expiration date of 11/2016. Interview with the Director of Operations confirmed the electrodes were expired and were available for patient use. Observation and interview with Chief Nursing Officer (CNO) #1 and NL #3 on 8/15/17 at 9:34 AM, in ED room #4 at Facility C, revealed the following items were stored in a cabinet under the sink: a call light, an oxygen flow meter, a suction meter and tubing, a suction tube, patient belongings bags, and handy wipes. Further observation revealed a sign under the sink stated "nothing under the sink." Interview with CNO #1 and NL #3 confirmed the items were not to be placed under the sink. Observation and interview with the ED NL on 8/15/17 at 10:00 AM, of the ED medication room at Facility C, revealed 1 bottle of urinalysis dipsticks with an expiration date of 4/2016 and 1	A 749	Pg 10-12 of 44	

STATEMENT OF DEFICIENCIES AND PLAN OF CORRECTION	(X1) PROVIDER/SUPPLIER/CLIA IDENTIFICATION NUMBER:	(X2) MULTIPLE CONSTRUCTION	(X3) DATE SURVEY COMPLETED
	440120	A. BUILDING _____ B. WING _____	08/16/2017

NAME OF PROVIDER OR SUPPLIER	STREET ADDRESS, CITY, STATE, ZIP CODE
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A 749	Continued From page 17 box of Silver Nitrate Applicators (used to stop bleeding or prevent a wound from becoming infected) with an expiration date of 6/2017. Interview with the ED NL confirmed the supplies were expired and were available for patient use. Observation and interview with the ED NL on 8/15/17 at 10:30 AM at Facility C, of the Neonatal (Infant) Resuscitation Cart revealed: *14 green top lab specimen tubes with expiration date of 12/2016 *5 green top lab specimen tubes with expiration date of 6/2017 *2 vacutainers (used to draw blood) with expiration date of 11/2016 *1 Umbilical Venous Catheter (catheter placed in the vein of the umbilical cord to administer IV fluids) with an expiration date of 2/2015. Interview with the ED NL confirmed the supplies were expired and were available for patient use. Observation and interview with the Assistant Chief Nursing Officer (ACNO) and the Infection Control Preventionist (ICP) #1, on 8/15/17 at 12:58 PM, in the Intensive Care Unit (ICU) Medication Storage Area at Facility C, revealed the following: one 500 milliliter (ml) bag of 5% (percent) Dextrose (IV sugar solution) with an expiration date of 6/2016; 49 Hemoccult cards (device to test for blood in stool) with an expiration date of 1/31/17. Interview with the ACNO #1 and ICP #1 confirmed the supplies were expired and were available for patient use. Observation and interview with the ACNO #1 and the ICP #1 on 8/15/17 at 1:25 PM, in the Neuro Step Down Unit Medication Storage Area at Facility C, revealed 3 bags of 1000 ml 5%	A 749	Pg 10-12 of 44	

STATEMENT OF DEFICIENCIES AND PLAN OF CORRECTION	(X1) PROVIDER/SUPPLIER/CLIA IDENTIFICATION NUMBER:	(X2) MULTIPLE CONSTRUCTION	(X3) DATE SURVEY COMPLETED
	440120	A. BUILDING _____ B. WING _____	08/16/2017

NAME OF PROVIDER OR SUPPLIER	STREET ADDRESS, CITY, STATE, ZIP CODE
TENNOVA HEALTHCARE	848 EAST OAK HILL AVENUE KNOXVILLE, TN 37917

(X4) ID PREFIX TAG	SUMMARY STATEMENT OF DEFICIENCIES (EACH DEFICIENCY MUST BE PRECEDED BY FULL REGULATORY OR LSC IDENTIFYING INFORMATION)	ID PREFIX TAG	PROVIDER'S PLAN OF CORRECTION (EACH CORRECTIVE ACTION SHOULD BE CROSS-REFERENCED TO THE APPROPRIATE DEFICIENCY)	(X5) COMPLETION DATE
A 749	Continued From page 18 Dextrose solution with an expiration date of December 2016; 1 bag of 1000 ml of Dextrose solution with an expiration date of November 2016; and 1 1000 ml bag of 5% Dextrose with an expiration date of February 2017. Interview with ACNO #1 and ICP #1 confirmed the items were expired and were available for patient use. Observation and interview with ACON #1, ICP #1, and the Director of Surgical Services (DSS) on 8/15/17 at 1:57 PM, in the PACU Clean Storage Room at Facility C, 2 Stockinettes (supplies used to isolate limbs during surgery) with an expiration date of June 2017; 2 Pressure Monitoring Sets (single-use kits that relay blood pressure information from a pressure monitoring catheter to a patient monitoring system) with an expiration date of 1/23/16; and 2 Pressure Monitoring Sets with an expiration date of 8/9/17. Interview with the ICP #1 and the DSS confirmed the items were expired and were available for patient use. Observation and interview with the DSS on 8/15/17 at 2:05 PM, in the PACU at Facility C, revealed 20 culture swabs with an expiration date of 11/2015. Interview with the DSS confirmed the culture swabs were expired and were available for patient use. Observation and interview with ACON #1, ICP #1 and the DSS on 8/15/17 at 2:20 PM, in the Gastroenterology Lab hallway at Facility C, revealed a storage cart with a specimen cup of Formalin solution (fixative solution for biopsy tissue) with an expiration date of March 2017. Interview with ACON #1, ICP #1 and the DDS confirmed the solution was expired and was available for patient use.	A 749	Pg 10-12 of 44	

STATEMENT OF DEFICIENCIES AND PLAN OF CORRECTION	(X1) PROVIDER/SUPPLIER/CLIA IDENTIFICATION NUMBER:	(X2) MULTIPLE CONSTRUCTION	(X3) DATE SURVEY COMPLETED
	440120	A. BUILDING 03 - EMORY ROAD NORTH HOSPITAL B. WING _____	08/23/2017

NAME OF PROVIDER OR SUPPLIER	STREET ADDRESS, CITY, STATE, ZIP CODE
TENNOVA HEALTHCARE	900 EAST OAK HILL AVENUE KNOXVILLE, TN 37917

(X4) ID PREFIX TAG	SUMMARY STATEMENT OF DEFICIENCIES (EACH DEFICIENCY MUST BE PRECEDED BY FULL REGULATORY OR LSC IDENTIFYING INFORMATION)	ID PREFIX TAG	PROVIDER'S PLAN OF CORRECTION (EACH CORRECTIVE ACTION SHOULD BE CROSS-REFERENCED TO THE APPROPRIATE DEFICIENCY)	(X5) COMPLETION DATE
K 000	**INITIAL COMMENTS** A life safety survey was conducted by the state of Tennessee Department of Health, Division of health licensure and regulation office of health care facilities on 8/14/17. During this life safety survey, Tennova Healthcare North Knoxville Hospital was not found to be in substantial compliance with the requirements for participation in Medicare/Medicaid at 42 CFR Subpart 483.70(a), Life safety from fire, and the related National Fire Protection Association (NFPA) standard 101 - 2012 edition. The requirement at 42 CFR, Subpart 483.70(a) is NOT MET as evidenced by:	K 000	pg 31 of 44	
K 324	**NFPA 101 Cooking Facilities** Cooking Facilities Cooking equipment is protected in accordance with NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, unless: * residential cooking equipment (i.e., small appliances such as microwaves, hot plates, toasters) are used for food warming or limited cooking in accordance with 18.3.2.5.2, 19.3.2.5.2 * cooking facilities open to the corridor in smoke compartments with 30 or fewer patients comply with the conditions under 18.3.2.5.3, 19.3.2.5.3, or * cooking facilities in smoke compartments with 30 or fewer patients comply with conditions under 18.3.2.5.4, 19.3.2.5.4. Cooking facilities protected according to NFPA 96 per 9.2.3 are not required to be enclosed as hazardous areas, but shall not be open to the corridor. 18.3.2.5.1 through 18.3.2.5.4, 19.3.2.5.1 through	K 324	pg. 32-33 of 44	

LABORATORY DIRECTOR'S OR PROVIDER/SUPPLIER REPRESENTATIVE'S SIGNATURE | TITLE | (X6) DATE

Any deficiency statement ending with an asterisk (*) denotes a deficiency which the institution may be excused from correcting providing it is determined that other safeguards provide sufficient protection to the patients. (See instructions.) Except for nursing homes, the findings stated above are disclosable 90 days following the date of survey whether or not a plan of correction is provided. For nursing homes, the above findings and plans of correction are disclosable 14 days following the date these documents are made available to the facility. If deficiencies are cited, an approved plan of correction is requisite to continued program participation.

STATEMENT OF DEFICIENCIES AND PLAN OF CORRECTION	(X1) PROVIDER/SUPPLIER/CLIA IDENTIFICATION NUMBER:	(X2) MULTIPLE CONSTRUCTION	(X3) DATE SURVEY COMPLETED
	440120	A. BUILDING 03 - EMORY ROAD NORTH HOSPITAL B. WING _____	08/23/2017

NAME OF PROVIDER OR SUPPLIER	STREET ADDRESS, CITY, STATE, ZIP CODE
TENNOVA HEALTHCARE	900 EAST OAK HILL AVENUE KNOXVILLE, TN 37917

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K 324	Continued From page 1 19.3.2.5.5, 9.2.3, TIA 12-2 This STANDARD is not met as evidenced by: Based on observation and interview, the facility failed to ensure dietary staff were properly trained. This deficiency affected one of fifteen smoke compartments. NFPA 101, 9.2.3 NFPA 96, 10.5.7 The findings include: Observation and interview with the maintenance director and two dietary staff on 8/21/17 at 9:00 AM revealed two of two dietary staff were unsure of what to do in the event of a hood fire, and which manual pull station went with the three hood suppression systems. The engineering director was present when the deficiency was identified and was acknowledged by the administration during the exit conference on 8/22/17.	K 324	pg 32-33 of 44	
K 902	NFPA 101 Gas and Vacuum Piped Systems - Other Gas and Vacuum Piped Systems - Other List in the REMARKS section any NFPA 99 Chapter 5 Gas and Vacuum Systems requirements that are not addressed by the provided K-Tags, but are deficient. This information, along with the applicable Life Safety Code or NFPA standard citation, should be included on Form CMS-2567.	K 902	pg. 34 of 44	

STATEMENT OF DEFICIENCIES AND PLAN OF CORRECTION	(X1) PROVIDER/SUPPLIER/CLIA IDENTIFICATION NUMBER:	(X2) MULTIPLE CONSTRUCTION	(X3) DATE SURVEY COMPLETED
	440120	A. BUILDING 03 - EMORY ROAD NORTH HOSPITAL B. WING	08/23/2017

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TENNOVA HEALTHCARE	900 EAST OAK HILL AVENUE KNOXVILLE, TN 37917

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K 902	Continued From page 2 Chapter 5 (NFPA 99) This STANDARD is not met as evidenced by: Based on observation, record review and interview the facility failed to ensure medical gas system was code compliant. This deficiency affected two of fifteen smoke compartments. NFPA 101, 19.3.2.4 NFPA 99, 5.1.4.8(1) The findings include: 1. Record review on 8/21/17 at 10:00 AM of the 5/22-24/17 Medical Gas Inspection report revealed two corridors where there is not an intervening wall between the zone valves and the outlets/inlets that they control. 2. Observation and interview with the engineering director on 8/21/17 at 10:30 AM verified that these two areas were non-compliant. The engineering director was present when the deficiencies were identified and was acknowledged by the administration during the exit conference on 8/22/17	K 902	Pg 34 of 44	

Tag	Deficiency	Corrective Actions	Responsible Person	Completion Date
A454	482.24(c)(2) CONTENT OF RECORD: ORDERS DATED & SIGNED All orders, including verbal orders, must be dated, timed, and authenticated promptly by the ordering practitioner or by another practitioner who is responsible for the care of the patient only if such a practitioner is acting in accordance with State law, including scope-of-practice laws, hospital policies, and medical staff bylaws, rules, and regulations. This STANDARD is not met as evidenced by: Based on review of facility policy, medical record review, and interview, the facility failed to ensure physician's orders were timed and dated for 1 patients (#2) of 60 medical records reviewed.	The Metro CQO conducted an internal review of the related policies and documents immediately upon discovery of the issue during the survey. The Metro CQO reviewed the policies entitled "Medication Orders" and "Verbal Orders Policy", the Tennova Metro Hospitals Medical Staff Bylaws and Rules and Regulations and the 2017 Medical Staff Orientation Manual. All documents were determined to adequately define the requirement for dating and timing physician orders and verbal orders. Attachments: • Medication Orders Policy • Verbal Orders Policy • excerpt from Medical Staff Rules & Regulations • excerpt from Medical Staff Orientation Manual The Metro CQO provided communication to the Administrative Leaders of the Hospitalist Group, which has newly transitioned on July 1, 2017. This communication included specific examples of entries lacking date and/or time, and excerpts from the Medical Staff Rules and Regulations and the Medical Staff Orientation Manual regarding dating and timing of entries into the medical record. The Administrative Leaders of the Hospitalist Group provided communication to all providers within the group. The information will also be shared at shift check out meetings within the group. The Metro CQO communicated with the Chief of the Medical Staff regarding the most effective method to promote physician compliance. The Chief of Staff and Metro CQO provided education to the medical staff regarding the requirement to date/time handwritten physician orders in the medical record via Medical Department meetings, email communication and postings in strategic locations including physician lounges and dictation areas. The Quality Department staff will perform audits of 70 handwritten orders/ month to confirm the presence of date and time until substantial compliance (90%) is achieved for 3 consecutive months, and will be reported monthly to the Medical Executive Committee and at least quarterly to the Board of Trustees.	Metro CQO Metro CQO Metro CQO Chief of Staff Metro CQO Metro CQO	8/14/17 9/6/17 9/7/17 9/22/17 Beginning 9/12/17; ongoing

Tag	Deficiency	Corrective Actions	Responsible Person	Completion Date
		Attachment: Timing and Dating Audit tool		

Tag	Deficiency	Corrective Actions	Responsible Person	Completion Date
A 749	482.42(a)(1) INFECTION CONTROL PROGRAM The infection control officer or officers must develop a system for identifying, reporting, investigating, and controlling infections and communicable diseases of patients and personnel This STANDARD is not met as evidenced by: Based on facility policy review, review of facility document, medical record review, observation and interview, the facility failed to ensure:			
	Failed to ensure intravenous sites (IV) were timed and dated when inserted for 3 patients (#23, #25, #37) of 4 patients observed with peripheral IV's	The Metro CNOs began conducting an internal review of the policy and practice immediately upon discovery of the issue during the survey. The Metro CNOs reviewed the policy entitled "Nursing Procedures" and determined it to be inadequate as it lacked clarity regarding peripheral IV therapy. The policy entitled "Peripheral IV Therapy Policy" was developed by the CNOs using references from the Mosby's Procedures and CDC guidelines. Attachment: Peripheral IV Therapy Policy The CNOs and Materials Management Leaders assessed the IV kits at each facility and were found to have adequate supplies to facilitate labeling of IV sites. Attachment: IV Start Kit Contents	Metro CNOs Metro CNOs Metro Materials Management Leaders	8/14/17 9/6/17 9/6/17

Tag	Deficiency	Corrective Actions	Responsible Person	Completion Date
		The Nursing Leaders educated RN and LPN staff who insert IVs using shift huddles, department meetings and "read and sign" review of the policy "Peripheral IV Therapy Policy" and/or educational flyer. The education emphasizes the requirement to label all sites with date and time of insertion. Any staff members not able to complete the training due to vacation, FMLA or other reason are required to be educated by the Nursing Leaders or designee prior to starting their first shift back to work. Attachment: IV therapy education flyer	Metro CNOs	9/24/17
		The Metro CNOs reviewed the elements included in bedside shift report and confirmed the inspection of IV sites is included during this process, including the labeling of date and time of insertion. The Nursing Leaders educated RN and LPN staff who insert IVs using shift huddles, department meetings, "read and sign" review of the policy "Peripheral IV Therapy Policy" and/or educational flyer. The education emphasizes the requirement to label all sites with date and time of insertion. Any staff members not able to complete the training due to vacation, FMLA or other reason are required to be educated by the Nursing Leaders or designee prior to starting their first shift back to work. Attachment: IV therapy education flyer	Metro CNOs	9/24/17
		The PICC/vascular access teams at each facility will perform audits of 70 IV sites/month to confirm they are labeled with date/time. The audits will continue until substantial compliance (90%) is achieved for 3 consecutive months, and will be reported to all facility Quality and Safety Committee meetings and at least quarterly to the Medical Executive Committee and the Board of Trustees. Attachment: IV site documentation audit tool	Metro CNOs	Beginning 9/25/17; ongoing
	Failed to ensure expired supplies were not available for patient use in 2 or 3 Emergency Departments (ED), in 1 of 2 Special Care Nurseries observed, in 6 of 45 clean supply	The expired supplies were immediately removed from use upon discovery during the survey.	Clinical Department Leaders	8/15/17
		The policy entitled "Stock Rotation and Expiration" was reviewed by Metro Materials Management Directors/Managers and was determined to be adequate. Attachment: Stock Rotation and Expiration Policy	Metro Materials Management Directors/Managers	9/06/17
		Metro Materials Management Directors/Managers educated the Materials	Metro Materials	9/22/17

Tag	Deficiency	Corrective Actions	Responsible Person	Completion Date
	storage areas observed, in 1 of 2 Post-Operative Care Units (PACU) and in 2 of 22 medication storage areas observed.	Management staff using "read and sign" review of the policy "Stock Rotation and Expiration", emphasizing processes to ensure no expired supplies are delivered to patient care units – and processes to stock supplies in patient care units with the earliest expiration date up front. Any staff members not able to complete the training due to vacation, FMLA or other reason are required to be educated by the Materials Management Director/Manager or designee prior to starting their first shift back to work.	Management Directors/Managers	
		Metro Clinical Department Leaders and designees educated staff in Clinical Departments using shift huddles, department meetings, and "read and sign" review of the policy "Stock Rotation and Expiration" and/or educational flyer. This education emphasized the importance of ensuring patient care supplies available for patient use are not expired, and to always verify the expiration date before using any supply and discard if an expired supply is identified. Any staff members not able to complete the training due to vacation, FMLA or other reason are required to be educated by their Department Leader or designee prior to starting their first shift back to work. Attachment: Expired Supplies Educational Flyer	Metro Clinical Department Leaders	9/29/17
		Metro Clinical Department Leaders and designees performed a complete inventory of all supplies in their departments, with expiration dates validated and par levels assessed. Any expired supplies were immediately removed.	Metro Clinical Department Leaders	10/2/17
		The facility Quality Directors will facilitate weekly rounds in a minimum of 5 units/week per facility. Metro Continuous Survey Readiness (CSR) Team members will perform rounds in clean supply storage areas and medication rooms – in Emergency Departments, Inpatient Units, Dialysis Departments, GI Labs, and Post-Operative Care Units to validate compliance with ensuring patient care supplies available for patient use are not expired. Storage carts and neonatal resuscitation carts located in any of these areas will also be checked for expired supplies during the weekly rounds. Items to be checked include blood collection tubes and bottles, special needs feeders, foley catheters, electrodes, urinalysis dipsticks, silver nitrate applicators, umbilical catheters, hemoccult cards, IV fluids, stockinettes, single-use pressure monitoring sets, culture swabs, and Formalin	Metro Quality Directors	Beginning week of 10/2/17; ongoing

Tag	Deficiency	Corrective Actions	Responsible Person	Completion Date
		solution – as applicable to the unit/cart being evaluated. At least 5 different types of supplies will be checked each week in each area. If any expired items are found, the Clinical Department Leader will be immediately notified to address and resolve the issue collaboratively with the Materials Management Director/Manager. Weekly rounds will continue until substantial compliance (90%) is achieved for 3 consecutive months, and will be performed on a quarterly basis thereafter. Results of weekly rounds will be reported at each Quality/Safety Committee (QSC) meeting until substantial compliance (90%) is achieved for 3 consecutive months, and will be reported at least quarterly to the Medical Executive Committee and the Board of Trustees.	Metro Quality Directors	9/8/17
	Failed to maintain a sanitary environment in 1 of 4 laboratories observed.	Immediately after the survey on 8/14/17, the Laboratory Staff cleaned all floor model air conditioning units in the 2A Laboratory areas. Cleaning was performed with an approved bleach germicidal product. All floor model air conditioning units in the 2A Laboratory areas were inspected by the Laboratory Director to ensure air conditioner grill cleanliness was sustained. Engineering personnel performed repairs on the affected air conditioning unit, replacing the insulation on the door and in the unit. Engineering personnel inspected and performed repairs as deemed necessary on the remaining air conditioning units throughout the Laboratory. The Preventative Maintenance Procedure entitled "FIL02" was reviewed by the PRMC Director of Support Services, and modifications were made to clarify several steps in this procedure. Attachment: Preventative Maintenance Procedure FIL02 The PRMC Director of Support Services and designees educated the Engineering staff using read and sign review of the Preventative Maintenance Procedure	Laboratory Director Laboratory Director PRMC Director of Support Services PRMC Director of Support Services PRMC Director of Support Services PRMC Director of Support Services	8/14/17 9/5/17 9/8/17 9/29/17 9/7/17 9/29/17

Tag	Deficiency	Corrective Actions	Responsible Person	Completion Date
		"FIL02", emphasizing the tasks involved in performing preventive maintenance checks on floor model air conditioning units. Any staff members not able to complete the training due to vacation, FMLA or other reason are required to be educated by the PRMC Director of Support Services or designee prior to starting their first shift back to work. Engineering personnel performed a complete inspection of all similar model air conditioning units in patient care areas in the facility – and performed preventive maintenance on the units which did not meet cleanliness expectations on initial inspection.	Engineering Personnel	10/13/17
		The Laboratory Director determined that fans would no longer be utilized in the Microbiology Laboratory.	Laboratory Director	9/6/17
		The Microbiology Manager added the following maintenance item to the Microbiology monthly maintenance log: "Inspect all floor model AC units and clean as needed; definition: clean top grill with bleach germicidal spray. Call Engineering to change filter if indicated."	Microbiology Manager	9/11/17
		The Microbiology Manager educated Microbiology personnel on the requirement to no longer utilize fans, and on the addition to the Microbiology monthly maintenance log.	Microbiology Manager	9/22/17
		The Microbiology Manager will review/audit the Microbiology monthly maintenance checks to ensure they have occurred as planned with the revised section on AC units documented appropriately, until full compliance (100%) is achieved for 3 consecutive months. Any noted issues with these monthly checks will be reported to the Laboratory Director for immediate resolution.	Microbiology Manager	9/29/17
		Audit results will be reported at each Quality/Safety Committee (QSC) meeting until full compliance (100%) is achieved for 3 consecutive months, and will be reported at least quarterly to the Medical Executive Committee and the Board of Trustees.	Quality Director	9/8/17

Tag	Deficiency	Corrective Actions	Responsible Person	Completion Date
K 000	INITIAL COMMENTS A life safety survey was conducted by the state of Tennessee Health Department of Health, Division of health licensure and regulation office of health care facilities on 8/14/17. During this life safety survey, Tennova Healthcare North Knoxville Hospital was found not to be in substantial compliance with the requirements for participation in Medicare/Medicaid at 42 CFR Subpart 483.70(a), Life safety from fire, and the related National Fire Protection Association (NFPA) standard 101-2012 edition.			

Tag	Deficiency	Corrective Actions	Responsible Person	Completion Date
K 324	NFPA Cooking Facilities Cooking equipment is protected in accordance with NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, unless: *residential cooking equipment (i.e., small appliances such as microwaves, hot plates, toasters) are used for food warming or limited cooking in accordance with 18.3.2.5.2, 19.3.2.5.2 *cooking facilities in smoke compartments with 30 or fewer patients comply with the conditions under 18.3.2.5.3, or *cooking facilities in smoke compartments with 30 or fewer patients comply with conditions under 18.3.2.5.4, 19.3.2.5.4. Cooking facilities protected according to NFPA 96 per 9.2.3 are not required to be enclosed as hazardous areas, but	**K-324 Education to Kitchen Staff on responding to a grease fire (Facility C -NKMC)** A review of EC 02.03.01.9 Fire Response Plan was conducted with the Food and Nutrition Staff on 08/29/17 and found to be in compliance. Facilities team along with the Food and Nutrition Director will complete random question and answering utilizing the most current environmental touring document once a week times 3 months and quarterly thereafter. Additional fire drills will be performed randomly in the Food and Nutrition Department. Results of the query and fire drills will be presented to the Environment of Care Committee during the regularly scheduled meetings. Quarterly results will be presented to the Medical Executive Committee and Board of Trustees for 2 quarters. Ongoing training will be conducted upon new hire prior to operating the kitchen equipment, regularly scheduled meetings, and annually through the contractual obligations provided by Morrison's.	North Knoxville Facilities Team Leader and Facilities staff	8/29/2017 9/5/2017 9/5/2017 9/29/2017 9/5/2017

Tag	Deficiency	Corrective Actions	Responsible Person	Completion Date
	shall not be open to the corridor. 18.3.2.5.1 through 18.3.2.5.4, 19.3.2.5.1 through 19.3.2.5.5, 9.2.3, TIA 12-2			

Tag	Deficiency	Corrective Actions	Responsible Person	Completion Date
K 902	NFPA 101 Gas and Vacuum Piped Systems – Other List in the REMARKS section any NFPA 99 Chapter 5 Gas and Vacuum Systems requirements that are not addressed by the provided K-Tags, but are deficient. This information, along with the applicable Life Safety Code or NFPA standard citation, should be included on Form CMS-2567.	**K-902 Medical Gas Shut Off Valves (Facility C - NKMC)** Medical gas shut off valves were found to not have intervening walls that the valves service. A review of the annual medical gas inspection was conducted on 08/08/17. The results were annotated in the inspection report under a Level 2 code variance. A review of EC 02.05.09 1-5 Medical Gas and Vacuum System Policy was reviewed on 08/09/17. The Medical Gas Risk Assessment Form was completed on 08/28/17 and discussed during Safety Huddle on 08/29/17. The Facilities Team Leader obtained a proposal for the relocation of source valves. Installation and Purchase requisition was approved by administration on 09/05/17. Appropriate submittal along with state approval will be acquired prior to relocation. Facilities Team Leader or designee will audit the annual medical gas inspection and testing results on an annual basis and report the findings to the Environment of Care Committee. Quarterly results will be presented to the Medical Executive Committee and Board of Trustees for 2 quarters.	North Knoxville Facilities Team Leader and Facilities staff	8/08/2017 8/09/2017 8/28/2017 8/29/2017 9/05/2017 9/5/2017

Attachment B-Need-A.3

Hospital Transfer Process Policy

Policy Title: Interfacility transfer process policy

Audience: All Employees

References and Citations:

Please reference the Regional Policy: Emergency Medical Treatment and Labor Act (EMTALA)

PURPOSE:
This document outlines the process established to comply with the Emergency Medical Treatment and Labor Act (EMTALA) for patients transferred from Tennova Healthcare.

POLICY:
Tennova Healthcare has established a transfer process to ensure compliance with EMTALA for patients transferred to other facilities. Transfers require physician concurrence, certification of need for transfer including discussion of the risks / benefits/ alternatives for the transfer, informed consent, documentation of receiving facility and physician acceptance of transfer, and communication of pertinent medical information to the receiving facility including the name and address of any on-call practitioner who has refused or failed to appear within a reasonable time to provide necessary stabilizing treatment.

1. Medically stabilized patients may be transferred to another facility upon physician order and after obtaining informed consent from the patient (if the patient condition permits) / surrogate decision maker when the following conditions are met:
A. The patient's condition has been deemed by the physician to require specialized care not available at Tennova Healthcare.

B. The patient requests a transfer. EXCEPTION: Involuntary commitments. NOTE: Patient's are

not transferred from Tennova Healthcare based on insurance coverage

C. unless requested by the patient.

D. 2. The hospital has exhausted all of its resources in trying to stabilize the patient's emergency medical condition and offers transfer to another facility.

TRANSFER PROCESS

A. The Transfer Process is documented using the following forms: "PHYSICIAN CERTIFICATION AND PATIENT CONSENT/REQUEST FOR TRANSFER"

B. The transferring physician and nurse have the following responsibilities:

C. In urgent or emergent situations for services needed to stabilize and treat the patient, the timeframe from transfer request until receipt at the next facility should be 60 minutes.

Note: The normal transfer process is secured when an Emergency Department staff member shall call Tennova One Call to facilitate an appropriate EMTALA transfer and to facilitate physician to physician communication with the accepting facility. An alternate means to facilitate an appropriate EMTALA transfer may be utilized, to the extent Tennova One Call is not immediately available or an alternative means is determined to be in the best interest of patient care by the treating Emergency Department physician.

RESPONSIBILITIES OF THE PHYSICIAN:

1. Obtain informed consent by discussing with the patient/family, the specific risks, benefits and alternatives for transfer. Obtain patient/family signature giving permission for transfer on the "PHYSICIAN CERTIFICATION AND PATIENT CONSENT/REQUEST FOR TRANSFER" form.
2. Write an order for the transfer in the medical record. Document the reason and the specific risks/benefits of transfer in the medical record as discussed with the patient/family.
3. Make arrangements directly with the receiving physician and document accepting physician's name, date and time.
4. Write orders covering:
a. Mode of Transportation
b. Personnel and equipment required for transport.
c. Information desired to be sent with patient. If the patient condition does not permit time to copy the above information, fax the information to the receiving institution and assure that it is received.
5. Sign transfer forms

RESPONSIBILITIES OF NURSE:

1. Notify Director of Nursing or Nursing Supervisor of patient change in condition and transfer necessity.
2. Arrange for transportation, personnel and equipment according to physician order.
3. Notify physician of estimated time of transportation arrival
4. Complete hand off communication with receiving department/unit and document date, time and who was spoken with in nurses notes
5. Prepare and send records with patient as ordered. .
6. Assure that patient remains monitored during transfer arrangements.
7. Return valuables or personal possessions to patient/family.
8. Obtain and document vital signs immediately before discharge
9. Notify the physician of any significant change in the vital signs.
10. Give transport personnel a report of the patient's condition, including current vital signs.

TRANSFER OF PSYCHIATRIC PATIENTS

1. In case of involuntary mental commitment, all forms required by the State shall be compieted in addition to the required patient transfer forms.
2. Stabilizing treatment will be provided to patients with an emergency medical condition prior to transfer. Transfer may occur when the physician has determined that the patient's condition is not likely to deteriorate as a result of transfer.
3. The physician and nurse responsibilities should be completed.

TRANSFER OF PREGNANT PATIENTS

1. Pregnant women will receive a medical screening examination to rule out the existence of an emergency medical condition before transfer to another facility.
2. When the woman has a physician at another hospital, she will not automatically be transferred to the other facility unless the patient requests the transfer, her condition is stable, the physician concurs, the receiving physician concurs, and all transfer requirements have been completed. The transfer will be made based on EMTALA standards using ambulance transportation unless otherwise instructed by the patient. The patient would be asked to complete the form to validate the refusal of transfer.
3. Document the patient stability prior to transfer.

The physician and nurse responsibilities should be completed

WHEN A TRANSFER IS DEEMED APPROPRIATE AND THE PATIENT REFUSES:

1. A competent/conscious adult may refuse services such as examinations, tests and transfers. See Informed Consent Policy.
2. Document in the medical record the benefits/risks discussed with the patient and of the refusal to provide consent for transfer.

DUTY TO REPORT A VIOLATION

All hospitals and physicians are legally obligated to report to CMS or the state survey agency any time it has reason to believe that an inappropriate transfer has occurred. This must be done within 72 hours of the discovery of a potential violation. Failure to do so is a violation in itself. All physicians and associates are to report suspected violations immediately to Risk Management.

Tennova Healthcare will not penalize or take adverse action against a physician for refusing to authorize the transfer of an individual with an emergency medical condition that has not been stabilized, or against any associate that reports a suspected violation of the regulatory requirements.
Please reference the Regional Policy: Emergency Medical Treatment and Labor Act (EMTALA)

Policy: Urgent/Emergent Transfers-**Intra-facility** (Tennova Healthcare facility transfer to a Tennova Healthcare, Metro facility).

Policy Statement: Patient transfers may be necessary from the offsite campuses of Tennova Healthcare when services required for the patient may not be available at their current location. A patient with a medical emergency or an acute change in condition requiring transfer will be treated until the patient's condition is stabilized and/or the physician determines medical condition will not deteriorate further by transport.

A physician determines based on reasonable risk and benefits to the patient and based upon information available at the time, the medical benefits reasonable expected from the provision of appropriate medical treatment upon transfer outweigh the increased risk to the individual's medical condition from affecting the transfer.

Times between transfer decision and receipt at Tennova Healthcare, Metro facilities will be reviewed by sending facility on each urgent/emergent transfer.

RESPONSIBILITIES OF THE PHYSICIAN:

1. Obtain informed consent by discussing with the patient/family, the specific risks, benefits and alternatives for transfer.
2. Write an order for the transfer in the medical record. Document the reason and the specific risks/benefits of transfer in the medical record as discussed with the patient/family.

3. Make arrangements directly with the receiving physician and document accepting physician's name, date and time.
4. Order type of transportation desired.
a. Mode of Transportation
b. Personnel and equipment required for transport

RESPONSIBILITIES OF NURSE:

1. Notify Director of Nursing or Nursing Supervisor/Team Leader of patient change in condition and transfer necessity.
2. Arrange for transportation, personnel and equipment according to physician order.
3. Notify physician of estimated time of transportation arrival.
4. Complete hand off communication with receiving department/unit and document date, time and who was spoken with in nursing notes.
5. Prepare and send complete medical records & transfer forms with patient as ordered.
6. Assure that patient remains monitored during transfer arrangements.
7. Return valuables or personal possessions to patient/family.
8. Obtain and document vital signs immediately before discharge.
9. Notify the physician of any significant change in the vital signs.
10. Give transport personnel a report of the patient's condition, including current vital signs.

WHEN A TRANSFER IS DEEMED APPROPRIATE AND THE PATIENT REFUSES:

1. Document in the medical record the benefits/risks discussed with the patient and of the refusal to provide consent for transfer.

Attachment B-Need-A.4

Quality Assurance Program

TENNOVA METRO KNOXVILLE
ORGANIZATION-WIDE QUALITY ASSESSMENT AND PERFORMANCE IMPROVEMENT PROGRAM
2017

Approved By:

Medical Executive Committee	5/18/17
Board of Trustees	5/26/17

Formulated By Quality Directors:
Penny Smith, North Knoxville Medical Center
Kristen Kilgore, Physicians Regional Medical Center
Wanda Crider, Turkey Creek Medical Center,
Sharon Delpuppa, Metro CQO
May 2017

TENNOVA METRO KNOXVILLE
PHYSICIANS REGIONAL MEDICAL CENTER
NORTH KNOXVILLE MEDICAL CENTER
TURKEY CREEK MEDICAL CENTER
ORGANIZATION-WIDE QUALITY ASSESSMENT AND PERFORMANCE IMPROVEMENT PROGRAM
2017

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I. MISSION AND VISION:

TENNOVA METRO KNOXVILLE MEDICAL CENTERS MISSION STATEMENT

Grounded by our faith in God, we provide a quality environment of healing, bringing innovative healthcare to our community.

VISION STATEMENT

To strive to provide access to quality health care that is patient-focused in delivery and maximizes all available resources.

VALUES STATEMENT

- We believe every individual has the right to quality healthcare that is respectful and considerate.
- We are committed to providing continuous care through our entire healthcare team.
- We are committed to providing continuous care through our entire healthcare team.
- We believe in the training of our staff and in the continuous improvement of our health center systems to provide the highest quality care.

II. INTRODUCTION:

A. PURPOSE

Tennova Metro Knoxville Medical Centers are institutions dedicated to meeting the needs of our patients in a manner which is consistent with our mission and values statements. The Organizational Quality Assessment and Performance Improvement plan is designed to provide a systematic and organized program for the promotion of safe, quality patient care and services. The plan outlines improvement principles, organizational structure and approach to continually strive toward our purpose of (1) doing the right things, (2) doing the right things well, and (3) continually improving. Activities are interdisciplinary and collaborative in order to respond to the needs of the customer, patient, physician, employee and community.

Through an interdisciplinary and integrated process, patient care and processes that affect patient care outcomes shall be continuously monitored and evaluated to promote optimal achievements, with appropriate accountability assumed by the Governing Board, Medical Staff, Administration, and support personnel.

B. QUALITY DEFINITION

We believe quality is a never-ending cycle of continuous improvement.

C. QUALITY VALUES

SAFETY & QUALITY

***Patient Safety and Quality*:** Improving patient safety by proactively identifying and improving systems causes of medical errors. We will promote a fair culture in identification of risks to patient safety.

PEOPLE

Effective Communication and Teamwork: We will show all members of our healthcare team respect, empowering them to make decisions and giving them the tools and resources they need to get the job done. We will work as a team to efficiently complete our tasks and to eliminate barriers between departments, job classifications and titles.

Health Promotion: We will partner with our community to provide patients, community members, and Employees with programs and services that increase their control over factors that improve personal health.

Education: We will strive to continuously learn about quality and service excellence, the tools we need to achieve both, and how we can incorporate quality and service excellence into our daily life.

GROWTH

Data – Driven Leadership: Rather than guess, we will measure our performance and progress, discovering where we are, deciding where we could be, and determining how to get there.

FINANCE

Finance/Utilization Management: Improving patient care and safety will be foremost in our minds. Working together, we will monitor and improve resource utilization and efficiency, clinical outcomes, and patient satisfaction.

SERVICE

Service Excellence: Customers come first. We strive to respond to customer needs quickly, efficiently, and graciously.

OUR QUALITY ASSUMPTIONS:

(1) The quality of a service or product is determined by a careful understanding of the needs & expectations of our customers.
(2) The improvement of the quality of a product or service is continuous.
(3) Quality Improvement involves every staff member in the organization.

D. GOALS

GOALS OF THE QUALITY IMPROVEMENT PROGRAM ARE AS FOLLOWS:

- To improve the quality, safety and reliability of patient care processes and outcomes.
- To promote patient safety by prevention and reduction of medical errors.
- To integrate the principles of high reliability into our quality structure and culture.
- Shift the primary focus from the performance of individuals to the performance of the organization's systems and processes, while continuing to recognize the importance of the individual competence of medical staff members and other professional staff.
- To utilize internal and external customer feedback to improve the services necessary to excel in a competitive health care environment.
- To organize data into useful information, including comparison to internal and external data sources.

- To utilize external information sources representing "Best Practices" in the design of systems to improve patient outcomes and processes.

- To promote a culture of continual survey readiness.

- To enhance communication between the Medical Staff, Hospital Department/Services, and the Governing Body regarding the conclusions and recommendations resulting from data analysis and the actions taken to address the findings and recommendations.

- Continue to re-design Quality resources and structure to facilitate efficiency and coordinate efforts throughout the metro facilities.

- Continued collaboration with the medical staff to promote dedicated focus on patient safety and reduction of Hospital Acquired Conditions

- Further development of efficient data management processes to demonstrate individual facilities and Metro outcomes

- Attain overall reduction in all categories of Hospital Acquired Conditions compared to prior year

- Improve Core Measure scores in the following domains:
  Stroke- improve to 99%
  VTE- maintain at 100%
  Immunization – improve to 96%
  Perinatal < 39 week delivery- improve to ≤ 2%
  Perinatal Primary C-section rate – sustain at < 22%

- Maintain current Joint Commission Disease Specific Certifications

- Maintain Full Joint Commission accreditation following 2017 Triennial Survey

- Zero CMS findings of Immediate Jeopardy

- Achieve a reduction in fall rate by 3% from 2016 annual rate (2.32) using the following definition:
  # total patient falls (inpatient and outpatient)/Adjusted Patient Days

E. SCOPE OF ACTIVITIES

The scope of the Organizational Quality Assessment and Performance Improvement Program encompasses measurement and assessment activities of the Medical Staff, Nursing and Ancillary or support services. Processes and outcomes of care are designed, measured and analyzed by appropriate departments.

Quality Improvement activities will address both clinical and organizational functions. These activities are designed to assess key functions of patient care and to identify, study, and correct problems and improvement opportunities found in the processes of care delivery.

The Board of Trustees, Administration, Department Leaders and leaders of the organized Medical Staff regularly communicate with each other on issues of safety and quality.

III. ORGANIZATION AND RESPONSIBILITIES OF LEADERS

A. RESPONSIBILITIES

Participation in Quality Improvement activities are the responsibility of everyone employed by, on the medical staff of, or contracted with Tennova Metro Medical Centers. The organizational Plan for Quality is reviewed and approved annually by the Quality & Patient Safety Councils, MEC, and Governing Body.

GOVERNING BOARD

The Governing Board shall be responsible to ensure the provision of optimal quality care, safety, and organization-wide performance. The Board is ultimately accountable for safety and quality, and has legal responsibility and operational authority for hospital performance. While maintaining overall responsibility, the Board delegates operational responsibility to the Medical Staff and Administration. The Governing Board authorizes the establishment of multidisciplinary Quality Committees to implement the Quality Improvement Program. The Board shall facilitate Quality Improvement by:

1) Providing direction in setting performance improvement priorities based on our mission, vision, and strategic goals;
2) Establishing an organizational culture that supports a commitment to quality and patient safety;
3) Ensuring the quality program reflects the complexity of the hospital's organization and services;
4) Ensures the quality program is focused on metrics related to improved health outcomes and the prevention and reduction of medical errors;
5) Approve the QAPI Plan;
6) Providing adequate resources, both material and manpower, to accomplish the QAPI function;
7) Reviewing, accepting or rejecting periodic reports on findings, actions, and results of program activities regarding the effectiveness of organization-wide quality and safety activities;
8) Evaluating on an annual basis, the effectiveness of the quality program as a whole, and if necessary, require modification to organizational structure and systems to improve outcomes;
9) Require a process designed to assure that all individuals responsible for the treatment and/or care of patients, whether provided through internal mechanisms or contracted services, are competent.
10) Specifies the detail and frequency of data collection;
11) Annually, reviews a written report on the results of any analyses related to the adequacy of staffing and any actions taken to resolve identified problems.

MEDICAL EXECUTIVE COMMITTEE

The Medical Executive Committee, accountable to the Board, shall be responsible for the ongoing quality and safety of medical care and professional services provided by all individuals with clinical privileges, and

1) Participate in organization-wide improvement activities;
2) Have representation on the Quality Management Committee;
3) Approve the QAPI Plan;
4) Involve Medical Staff members in medical staff departmental measurement, assessment and improvement activities, including peer review;
5) Review results of medical staff quality improvement activities, including OPPE and FPPE

The medical staff shall determine its important aspects of care and priorities and shall also monitor the findings and recommendations of Pharmacy and Therapeutics, Utilization Management Committee, Infection Control and Quality & Safety Committees.

MEDICAL STAFF

The Quality Assessment and Performance Improvement Program may include monitoring and analysis of a selection of the following medical staff functions as a means for Ongoing Professional Practice Evaluation and Focused Professional Practice Evaluation:

Unexpected Complications Review
Medication Use Monitoring
Record of Care Review / Quality of the H&P Review
Blood / Blood Component Usage Review
Mortality / Autopsy Review
Operative / Invasive Procedure Review
Risk Management
Monitoring for Sentinel/ Serious Safety Event
Patient Safety
Infection Control
Utilization Management
Publicly reported metrics/data
Pathology & Radiology Review
Patient Complaints/Grievances

Findings from quality review activities are part of ongoing professional practice evaluation, focused professional practice evaluation and the reappointment of medical staff members and those individuals not permitted by the hospital to practice independently. Results of quality review activities are individually profiled for evaluating purposes.

The organized medical staff:

- Participates in developing specific indicators to systematically evaluate practitioner care. This may be accomplished by individual medical staff departments or medical staff committees;
- Identifies and analyzes problems and opportunities, takes appropriate actions and monitors the effect of the actions taken to determine that problems have been resolved or there has been significant improvement to the highest achievable level that can be expected;
- Monitors the appropriateness of clinical practice patterns and significant departures from established patterns of clinical practice;
- Reports Medical Staff QAPI results to the Quality and Safety Committees and MEC and Board by way of written reports and summaries.

SENIOR LEADERSHIP

Senior leadership supports the maintenance of the QAPI process through allocation of staff and resources necessary to fulfill the requirements of the program. Leaders also:

- Promote the participation of appropriate staff members and departments in the program through collaborative monitoring and evaluation of patient outcomes and important functions through the Quality & Safety Committees;
- Analyze data and information in decision-making that supports the safety and quality of care;
- Perform evaluations of clinically contracted services in collaboration with the respective department director and reporting the results of the evaluation to the Quality and Safety Committees, Medical Executive Committee and the Board.
- Regularly evaluate the culture of safety and quality using valid and reliable tools.

QUALITY DEPARTMENT

The Quality and Regulatory Compliance department shall be responsible to support the organization's Quality Improvement principles, strategies, priorities, approach, and methodologies, which includes but is not limited to the following tasks:

1) Working with the Medical Staff, patient care and other hospital departments/services, and teams to effectively measure, assess, analyze, and improve the quality and safety of care and services.
2) Coordinate Quality Improvement orientation, education and training.
3) Facilitate and support Quality Improvement teams.
4) Coordinate survey preparations and facilitate a culture of continual survey readiness.
5) Maintain the database for all QAPI activities including quality improvement teams, departmental quality measures, medical staff quality and peer review activities.
6) Conducts an annual organization-wide evaluation of the Quality Program.
7) Communicates quality improvement activities throughout the organization and regularly to the Quality/Safety Committee/QMC, MEC, Medical Staff and Board.
8) Works closely with Risk Management to monitor/analyze serious safety events and/or sentinel events and promote patient safety.
9) Ensures the hospital selects meaningful quality measures that address the needs of the patients it serves.
10) Provides reports using statistical tools & techniques to analyze and display data.
11) Compares internal data over time to identify patterns, trends and variations.
12) Compares data with external sources.
13) Analyze performance and improvement initiatives related to reduction in Hospital-acquired Conditions

HOSPITAL DEPARTMENTS

The Department Leaders are accountable to Administration, the Quality & Safety Committee (QSC), the Quality Management Committee (QMC) and the Board for the quality and safety of care/services and performance of their staff and departments. Department Directors and Managers are responsible for the systematic monitoring and analysis of the quality and safety of care provided in their departments. Directors will:

- ❑ Communicate opportunities for improvement to the QSC/QMC for prioritization
- ❑ Promote the development of standards of care and criteria to objectively measure the quality and safety of care/services rendered in their departments.
- ❑ Monitor, analyze and report the processes in their areas that affect patient care, safety, outcomes and satisfaction including HAC's, 5-STAR and HCAHPS performance.
- ❑ Design and redesign work processes to improve safety and quality.
- ❑ Department Managers are responsible to collect data as appropriate, including:

    - Operative/invasive procedure review
    - Use and outcomes of moderate sedation or anesthesia
    - Blood/blood components and transfusion reactions (Laboratory/Nursing)
    - Results of resuscitation and rapid response processes
    - Patient complaints/grievances
    - Adverse Events

- ❑ Participate in quality improvement teams.
- ❑ Report Quality Improvement findings and actions taken to the Chief Quality Officer/Quality Director, QSC/QMC, Medical Staff, and others as appropriate.
- ❑ Communicate the status of departmental quality, patient safety, and survey readiness initiatives regularly to departmental staff members.
- ❑ Evaluate the performance of all clinically contracted services and report the results of the evaluation to the Quality Management Department for reporting in applicable committee(s).
- ❑ Participate in the Contract Evaluation Process

QUALITY & SAFETY COMMITTEE (QSC) & QUALITY MANAGEMENT COMMITTEE (QMC)

The Quality & Safety Committees are the hospital-based multidisciplinary bodies that serve to oversee, coordinate and direct facility as well as Metro quality improvement activities. The Quality Management Committee serves to direct organizational quality improvement activities. The Committees' primary function is to set guidelines for monitoring and evaluation of patient care and safety and to direct improvement action when those measures do not meet expectation. Membership includes but is not limited to representatives from both clinical and non-clinical areas including the Medical Staff, Senior leadership (CEO, CNO, CQO, CFO), Quality Director, Quality Coordinator, Risk Management/Patient Safety Officer and other clinical and non-clinical staff as appropriate on an ad hoc basis. QSC meetings are at minimum, ten per year. QMC will meet on a quarterly basis at a minimum. All members may vote. Activities include but are not limited to:

1) Develop, evaluate, modify, and approve the Quality Improvement Plan
2) Considers the setting, scope and services provided and selects meaningful measures addressing the needs of the patients served
3) Set priorities for ongoing measurement of important processes
4) Evaluating the need to reprioritize improvement activities in response to unusual or urgent events identified through measurement and/or changes in the environment of care or community
5) Receive and review reports regarding the effectiveness of organization-wide QAPI activities
6) Review new service proposals ensuring appropriate quality measures are established
7) Analyze and identify trends or patterns that might suggest an improvement opportunity
8) Compare data with external sources when available
9) Review and act upon Opportunity/Process Improvement Referrals
10) Support quality improvement teams, acting upon their recommendations
11) Convening multidisciplinary QI teams for specific improvement efforts, some of which may be triggered by the results of ongoing measurement and/or customer feedback
12) Communicating relevant activities, as necessary, throughout the organization
13) Review Customer Service Surveys, QI Teams, Risk Management, Hospital Committees, Resource Management reports and other executive level data/information impacting organization quality and safety
14) Evaluate the effectiveness of the QAPI activities of the hospital departments and teams
15) Integrate findings and outcomes of reviews conducted by the Medical Staff that identify systems process issues
16) Determine the education and training needs of the organization related to Quality Improvement
17) Evaluate and validate corrective action has resulted in improvement
18) Reporting to the Medical Staff and Board of Trustees
19) Maintain a permanent record of council proceedings

QUALITY AND PATIENT SAFETY INTEGRATION

It is essential the Patient Safety Program and Quality Assessment and Performance Improvement Program are integrated to assure the flow of information to the appropriate areas for review, action, and/or follow-up. The Quality and Risk Management programs seek to reduce the frequency and severity of adverse events, thus minimizing loss and contributing to Quality Improvement through risk identification, evaluation, control and education. The Chief Quality Officer/Quality Director and Risk Manager and/or Patient Safety Officer both identify conditions/significant events which could or have caused injury or loss; will monitor resolution of risk-related problems; plan/provide appropriate education to employees, Medical Staff, Governing Body and interact with the Medical Staff Administration; Nursing and Clinical Services.

Risk Management analysis of Safety Events includes the adequacy of staffing, including nurse staffing. The adequacy of staffing includes the number, skill mix and competency of staff.

Annually provides a written report to the Board on the results of any analyses related to the adequacy of staffing and any actions taken to resolve identified problems.

The Risk Manager and/or Patient Safety Officer attend(s) the Quality/Safety Committee (QSC) and provide reports as specified by the Committee.

- ❑ EOC and Patient Safety reports are presented to QSC or QMC at least quarterly
- ❑ Event Reports involving potential or actual quality issues will be referred to and evaluated by the Risk Management Department. Issues are referred to the Chief Quality Officer/Quality Director for Medical Staff review as appropriate.
- ❑ A quarterly summary of the above will be reported through the established hospital committees reporting channels.

B. ESTABLISHING PRIORITIES FOR QUALITY IMPROVEMENT

Priorities for Quality Improvement shall be established collaboratively by the Board, Senior Leadership and Medical Staff Leadership. The following criteria will be considered in establishing priorities:

- ❑ Mission, Vision and Values
- ❑ Strategic Plan, Community needs
- ❑ Needs and expectations of patients and families and other customers
- ❑ Input from Medical Staff and Employees
- ❑ High Volume diagnoses/procedures/processes
- ❑ High Risk diagnoses/procedures/processes
- ❑ High cost diagnoses/procedures/processes
- ❑ Problem prone procedures/processes
- ❑ Input from external sources (licensing, regulatory agencies)
- ❑ Clinical competency and training needs
- ❑ Resources required to make the improvement, both human and material
- ❑ Prioritization Tool (Attachment)

PRIORITIZATION

The QSC/QMC will oversee the setting of priorities for quality improvement activities. Items/topics will be evaluated by the Committees utilizing the priority scoring grid (see attached). The Committees will evaluate the combined scores of each opportunity prioritized and take appropriate actions using the following guide:

Score	Potential Committee Decisions
0 – 10	Trend data
11 – 24	Refer to Department Chairperson or Manager for action
25-34	Refer to Administration
35-45	Possible Improvement Team or other single action
Over 45	Required Quality Improvement Team

REPRIORITIZATION

Quality Improvement activities may be re-prioritized by the Quality Improvement Council based on needs and resources. Issues may be reprioritized in response to sentinel/serious safety events identified, through quality indicators tracking and trending, unanticipated adverse occurrences affecting patients, changes in regulatory requirement, changes in patient population, in the environment of care, and/or changes in the expectations or needs of patients, staff or the community.

REPORTING

QSC/QMC reports the results of monitoring activities and the improvement action plans as appropriate to the Medical Executive Committee, Administration, and Board on at least a quarterly basis.

C. QUALITY IMPROVEMENT TEAMS

Composition:

Teams are made up of individuals with expertise relating to the processes of care being evaluated. *(Refer to "Guidelines for Quality Improvement Teams" manual).*

Activating a Team

Any employee or Medical Staff member may forward a request for a team to the QSC. Each referral will be evaluated and prioritized by the QSC or a sub-committee assigned by the QSC. In addition, referrals may be made to the senior leaders who can authorize team formation. If the problem/process involves more than one department, the QSC or senior leaders may authorize the formation of the Team, and assign a Team Leader. If the problem/process affects a single department, the QSC or senior leaders will forward the referral to a single department for intra-departmental team development. It is imperative that departmental leadership allow staff member(s) time to participate in order for the team to be successful.

IV. DESIGN – QUALITY METHODOLOGY

A. METHODOLOGY

The PDCA model/process for performance improvement is utilized as the methodical approach to Quality Assessment and Performance Improvement initiatives.

B. MEASURE

The monitoring and analysis process will include at least the following activities:

- Core Measures and other Value-Based Purchasing (VBP) metrics
- The use of blood and blood components
- All reported and confirmed transfusion reactions
- Significant medication errors
- Significant adverse drug reactions
- Processes related to the National Patient Safety Goals
- Pharmacy and Therapeutic Evaluation
- Medication Variances and the Medication Management System
- Analyze the Organ Procurement conversion rate data as provided by the OPO
- Morbidity and Mortality
- Operative, Invasive and Non-invasive Procedures that place the patient at risk
- Significant discrepancies between preoperative and postoperative diagnoses, including pathologic diagnoses
- Medical Record Completion & Timeliness, including the quality of the H&P
- Infection Control Surveillance
- Financial/Resource Data (financial consideration as it relates to care and services provided).
- Utilization Review
- Patient perception of the safety & quality of care, treatment or services

- Autopsy Reviews
- Risk Management/Patient Safety data and reports, including the effectiveness of fall reduction activities
- Restraint Reduction Activities; Serious Safety Events
- The use of seclusion; use of restraint
- Adverse Events related to using moderate or deep sedation and anesthesia
- Surveillance of Equipment and Utilities Maintenance Programs
- Surveillance of Safety and Life Safety Programs
- Review of unexpected and/or serious complications
- Comparison of hospital performance through reference databases
- Analyzing and responding to reports of surveys, assessments, licensing, regulatory, and reimbursement authorities
- Evaluation of the needs, expectations, and satisfaction of patients, physicians, employees
- Staff willingness to report adverse events and suggestions for improving patient safety & quality of care
- The results of resuscitation and Rapid Response Processes
- Grievances and Complaints
- Evaluation of processes in response to Patient Safety Alerts from internal or external sources
- Evaluation of processes in response to The Joint Commission Sentinel Event Alerts
- The results of any analyses related to the adequacy of staffing and any actions taken to resolve identified problems.
- Behavior management and treatment
- Evaluation & improvement of conditions in the environment
- Infection Prevention
- Review and analysis of incidents where the radiation dose index (Computed Tomography Dose Index), dose length product, or size-specific dose estimate from diagnostic CT exams exceeded expected dose index ranges identified in imaging protocols. These incidents are then compared to external benchmarks.
- Pain management
- Quality Control monitoring in:

  Clinical laboratory services
  Diagnostic radiology services
  Nutrition/Food services
  Equipment PM
  Nursing Services
  Pharmacy
  Physical Therapy

- Processes related to ongoing professional practice evaluation and focused professional practice evaluation

- Sentinel Event Occurrences/Serious Safety Events as specified in Sentinel Event Policy.
  - Other occurrences such as "Never Events" that may be classified as a Sentinel Event

The hospital will conduct a root cause analysis, and other investigations as appropriate, in response to a sentinel event, serious safety event or significant near miss. The root cause analysis involves an internal investigation and assessment of the sentinel event to reduce variations and prevent the event from recurring in the future.

DESIGN OF NEW PROCESSES

When it is established that there is a need or opportunity to initiate a new service, extend product lines, occupy a new facility, or significantly change existing functions or processes, the design will be based upon the organization's mission, vision and plans. The needs of the patients, staff, and all who use this service will be considered and up-to-date sources of information shall be used to design the process or service.

QUALITY MEASURES

Measures for periodic assessment and improvement arise from Employees, Leadership Group, Quality Improvement Council, Medical Staff and other sources. Important functions and processes of care are selected on the basis of which most significantly impact patient care. These may be included, but not limited to the following:

- ❑ Problem Prone/High Risk/Volume Processes
- ❑ Utilization Review and Risk management findings
- ❑ Results of ongoing activities designed to control and prevent infections
- ❑ Patient Safety and the reduction of medical errors
- ❑ Importance to patient/customer
- ❑ Regulatory requirements

DATA COLLECTION

The staff collects, organizes and analyzes data necessary to determine root causes, track performance, benchmarking, etc. Data is organized in such a manner as to facilitate comparison and trends. The data collection is conducted in a timely and efficient manner. Statistical techniques and data displaying "tools" will be utilized. Tools may include but are not limited to: charts and graphs, Run Charts, Histograms, Pareto Charts, Flow Charts, Cause and Effect diagrams (Fishbone Diagrams), Control Charts, etc.

FREQUENCY OF DATA COLLECTION

The frequency of data collection and measurement is related to:

1) The frequency of the event (affect a large percentage of patients)
2) Problem prone processes
3) The significance of the event or process monitored:

    a) What the leaders view as most important
    b) The extent to which the important aspect of care, processes, and outcomes monitored has been demonstrated to meet expectation or be problem free
    c) Customer satisfaction responses to measure the extent that the organization meets the needs and expectation of patients/families
    d) Priority issues and adverse/significant events may require more detail and frequency of measurement activities.

The Governing Body specifies the frequency and detail of data collection.

SAMPLE SIZE

When sampling is appropriate, the representative sample number is determined by the situation or process under review, i.e. intensive review vs. random review. The Quality & Safety Committee or medical staff may assist in determining sample size. The below illustration is also recommended as a guide for sample size:

- For a population size of fewer than 30 cases, sample 100% of available cases.
- For a population size of 30 to 100 cases, sample 30 cases.
- For a population size of 101 to 500 cases, sample 50 cases.
- For a population size greater than 500 cases, sample 70 cases.

A *case* refers to a single instance in which a situation related to a survey finding occurs.

Population size totals may be interpreted as "annually" unless otherwise specified by the QSC or medical staff.

C. ASSESS

Monitoring and Analysis:

Responsibility for measurement activities is assigned/delegated by the QSC. Data resources available for use in QI activities includes, but is not limited to:

- Core Measures Data
- The Medical Record
- Department Specific Indicators
- QIO Data
- Organ Procurement Organization
- Tumor Registry
- Mortality and Morbidity Reviews
- Clinical Outcomes Review
- Federal and State generated outcome data reports
- Established standards of care
- Financial data
- Staff interviews or observations
- Data originating from third party payers/fiscal intermediaries
- Preventive maintenance records
- External benchmarking reports
- Internal databases
- Surveillance surveys (safety, life safety, infection control, hazardous materials)
- Vital Statistics
- Sentinel Event Alerts and other external sources of patient safety information
- Census/Financial data
- Utilization Review findings
- Autopsy Reviews
- Risk Management/Patient Safety Data and reports
- Customer Service Reports; Patient, Staff and Physicians
- Surveillance surveys (safety, life safety, infection control, hazardous materials)
- Comparison of hospital performance through reference databases
- The adequacy of staffing, including nurse staffing
- Antimicrobial Stewardship

Quality Improvement statistical tools will be used to assess and/or compare the Organization:

- ❑ With self over time, through assessment of variations, patterns, and trends
- ❑ With others, including the use of data bases from Corporate and/or private industry
- ❑ With standards such as practice guidelines/parameters
- ❑ With best practices

The assessment process includes conduction of specific and intensive assessment for:

- Important major discrepancies between pre-op and post-op
- For confirmed hemolytic transfusion reaction
- For significant adverse drug reaction as defined by Pharmacy
- Patterns or trends outside those expected
- Variation in the organization's performance data as compared to that of other organizations, or a recognized standard
- When the organization wishes to improve already good performance

When evaluating the results from an intensive assessment, the hospital will focus on processes, however, when the findings from intensive assessment are relevant to individual performance, the following shall occur:

Medical Staff:

- ❑ Referral to appropriate Medical Staff Leader or Committee for individual case review
- ❑ A focused review may be initiated when a trend or pattern develops, or when a practitioner exceeds established OPPE triggers (see Medical Staff Peer Review Policy)

Hospital Staff:

Each department Manager will review information relevant to individual staff performance and this information will be used to prioritize and strategize individual and unit education needs.

D. IMPROVE

Improvement opportunities are identified by departmental and organizational QI activities, customer satisfaction surveys, sentinel/serious safety events, hospital/medical staff committees, opportunity for improvement forms and through formal and informal networking of all Employees.

Appropriate action will be recommended and implemented to eliminate or reduce variations identified or to improve quality of care. Multidisciplinary QI Teams will be initiated at the direction of the QSC to address identified opportunities.

Re-design/Design of Improvement Initiatives (Re-Assessment Process)

The effectiveness of any action taken is assessed and documented. Periodic monitoring of the results of correction action, including re-design of processes, will be conducted to make sure that any problems identified have been alleviated or eliminated and the improvement sustained. Any design/re-design initiative(s) will be evaluated for their effectiveness. If the specific area does not show improvement, new actions/design will be taken and, once again, the effectiveness will be assessed.

V. COMMUNICATION AND REPORTING

To coordinate the quality improvement activities throughout the organization, the Chief Quality Officer/Quality Director will receive and have access to all QI information. Department leaders will communicate their quality activities and performance to their Employees, to the Senior Leader to whom they report, and/or to the Quality Coordinator (as requested), using the approved reporting forms and format. Measurement and assessment

activities are reported to the QSC, Medical Executive Committee, and to the Governing Board on at least a quarterly basis. (see attachment Organizational Committee Structure/Information Flow)

Feedback from organizational QAPI activities is provided at Leadership group meetings, in departmental staff meetings, hospital newsletters and between the QSC, Medical Executive Committee and Board as appropriate.

VI. STAFF DEVELOPMENT/EDUCATION

Staff will be introduced to Quality Assessment and Performance Improvement concepts and objectives during new Employee orientation, department staff meetings, hospital publications and inservices as needed. Employees are encouraged to participate in the team process which provides additional "just in time" training.

VII. ANNUAL PROGRAM EVALUATION

The effectiveness of the Quality Assessment and Performance Improvement Program is evaluated annually and revised as necessary. Results of the evaluation will be compiled and reported to MEC, Board of Trustees, Quality Committees and Department Leaders.

VIII. CONFLICT OF INTEREST

The Hospital manages conflict between leadership groups to protect the quality and safety of care.

IX. CONFIDENTIALITY

Confidentiality shall be maintained, based on full respect of the patient's right to privacy and in keeping with Hospital Policy and State and Federal Regulations governing the confidentiality of quality improvement work products. Information reported to or provided by the CHS PSO will be protected in accordance with the policies and procedures of the CHS PSO, LLC.

X. RETENTION OF RECORDS

All minutes of meetings are maintained permanently either in their original form or electronically. Cumulative quality improvement activity reports are maintained for three years either in their original form, or electronically.

APPROVAL:

Chief Quality Officer	Date
CEO North Knoxville Medical Center	Date
CEO Physicians Regional Medical Center	Date

CEO Turkey Creek Medical Center Date

Chief of Staff Date

Chairman, Board of Trustees Date

I. APPENDICES

A. QAPI Model (PDCA)
B. Opportunity Referral System
C. Flow of Information
D. Priority Scoring Grid
E. Operative/Invasive Procedure Review (E1)
   Sample Operative and Invasive Review Calendar (E2)
F. Mortality / Autopsy Review (F1)
   Metro Mortality Review Tool (F2)
G. Blood Usage Review (G1)
   Metro Blood Utilization Monitoring Tool (G2)

OTHER:

Medical Staff - Bylaws Appendix D Peer Review Policy

External Peer Review Guidelines Policy

Attachment B-Need-A.8

DPH Cardiac Cath Calculations for 11-County Service Area

Certificate of Need Cardiac Cath Calculations based on 2009 State Health Plan Standards

Data Sources: TDH Hospital Discharge Data System (HDDS), Joint Annual Reports (JARS)
Data Years: 2013-2015 (most recent years of finalized HDDS data), 2015 JARS

Methodology: Determine the three year Cardiac Cath weighted volume (diagnostic and therapeutic) performed by each Tennessee hospital in the service area by 13 age groups calculating a single year average. Include all patients seen, both Tennessee resident and non-resident. Include all occurrences of Cardiac Cath ICD-9 and ICD-10 Procedure Codes or CPT HCPCS codes with a Revenue Code 0481, Cardiology - Cardiac Cath Lab. Summarize cases based on the highest weighted code.

Cardiac Cath ICD-9, ICD-10 and CPT codes and categorizations determined with assistance from the Bureau of TennCare and the Tennessee Hospital Association. Note: ICD-10 coding began the fourth quarter of 2015.

The service area for the current application includes Anderson, Campbell, Claiborne, Cocke, Grainger, Hamblen, Jefferson, Knox, Scott, Sevier, and Union counties. Acute care hospitals found in this area (during the years 2013-2015) are Methodist Medical Center of Oak Ridge, Tennova Healthcare-LaFollette Medical Center, Jellico Community Hospital, Claiborne County Hospital, Tennova Healthcare-Newport Medical Center, Morristown-Hamblen Healthcare System, Lakeway Regional Hospital, Tennova Healthcare-Jefferson Memorial Hospital , Fort Sanders Regional Medical Center, Tennova Healthcare, University of Tennessee Memorial Hospital, East Tennessee Children's Hospital, Parkwest Medical Center, Tennova Healthcare-Turkey Creek Medical Center, Tennova Healthcare-North Knoxville Medical Center, Pioneer Community Hospital of Scott, and LeConte Medical Center.

Jellico Community Hospital (State ID 07252), Clairborne County Hospital (State ID 13202), East Tennessee Children's Hospital (State ID 47292) and Pioneer Community Hospital of Scott (State ID 76212) did not record any claims in the time period with Revenue Code 0481, Cardiology - Cardiac Cath Lab.

Methodist Medical Center of Oak Ridge (State ID 01202)

Highest Weighted* Cardiac Cath Services Provided - Hospital Discharge Recorded Data - 2013-2015

Diagnostic Cardiac Caths				
	Diagnostic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	4,316.0	4,296.0	0.0	20.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	23.0	21.0	0.0	2.0
30 - 39	123.0	123.0	0.0	0.0
40 - 44	179.0	179.0	0.0	0.0
45 - 49	290.0	290.0	0.0	0.0
50 - 54	437.0	433.0	0.0	4.0
55 - 59	551.0	551.0	0.0	0.0
60 - 64	598.0	598.0	0.0	0.0
65 - 69	715.0	709.0	0.0	6.0
70 - 74	551.0	545.0	0.0	6.0
75 - 79	438.0	438.0	0.0	0.0
80 - 84	266.0	264.0	0.0	2.0
85 +	145.0	145.0	0.0	0.0

Therapeutic Cardiac Caths				
	Therapeutic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	3,187.0	430.0	2,385.0	372.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	11.0	2.0	9.0	0.0
30 - 39	92.0	4.0	84.0	4.0
40 - 44	162.0	10.0	144.0	8.0
45 - 49	189.0	24.0	153.0	12.0
50 - 54	324.0	30.0	270.0	24.0
55 - 59	411.0	72.0	303.0	36.0
60 - 64	389.0	62.0	291.0	36.0
65 - 69	501.0	82.0	351.0	68.0
70 - 74	396.0	54.0	258.0	84.0
75 - 79	363.0	38.0	273.0	52.0
80 - 84	207.0	32.0	135.0	40.0
85 +	142.0	20.0	114.0	8.0

CC - Cardiac Catheterization PV - Peripheral Vascular Catheterization EP - Electrophysiological Studies

* Cardiac Cath ICD-9, ICD-10, CPT codes and service categories provided by the Bureau of TennCare and the Tennessee Hospital Association.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Office of Healthcare Facility Statistics. Hospital Discharge Data System, 2013-2015. Nashville, TN.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment

Certificate of Need Cardiac Cath Calculations based on 2009 State Health Plan Standards

Tennova Healthcare - LaFollette Medical Center (State ID 07242)

Highest Weighted* Cardiac Cath Services Provided - Hospital Discharge Recorded Data - 2013-2015

Diagnostic Cardiac Caths				
	Diagnostic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	3.0	3.0	0.0	0.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	0.0	0.0	0.0	0.0
30 - 39	0.0	0.0	0.0	0.0
40 - 44	0.0	0.0	0.0	0.0
45 - 49	0.0	0.0	0.0	0.0
50 - 54	1.0	1.0	0.0	0.0
55 - 59	2.0	2.0	0.0	0.0
60 - 64	0.0	0.0	0.0	0.0
65 - 69	0.0	0.0	0.0	0.0
70 - 74	0.0	0.0	0.0	0.0
75 - 79	0.0	0.0	0.0	0.0
80 - 84	0.0	0.0	0.0	0.0
85 +	0.0	0.0	0.0	0.0

Therapeutic Cardiac Caths				
	Therapeutic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	21.0	6.0	15.0	0.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	0.0	0.0	0.0	0.0
30 - 39	0.0	0.0	0.0	0.0
40 - 44	0.0	0.0	0.0	0.0
45 - 49	0.0	0.0	0.0	0.0
50 - 54	0.0	0.0	0.0	0.0
55 - 59	3.0	0.0	3.0	0.0
60 - 64	3.0	0.0	3.0	0.0
65 - 69	2.0	2.0	0.0	0.0
70 - 74	6.0	0.0	6.0	0.0
75 - 79	5.0	2.0	3.0	0.0
80 - 84	2.0	2.0	0.0	0.0
85 +	0.0	0.0	0.0	0.0

CC - Cardiac Catheterization PV - Peripheral Vascular Catheterization EP - Electrophysiological Studies

* Cardiac Cath ICD-9, ICD-10, CPT codes and service categories provided by the Bureau of TennCare and the Tennessee Hospital Association.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Office of Healthcare Facility Statistics. Hospital Discharge Data System, 2013-2015. Nashville, TN.

Tennova Healthcare - Newport Medical Center (State ID 15222)

Highest Weighted* Cardiac Cath Services Provided - Hospital Discharge Recorded Data - 2013-2015

Diagnostic Cardiac Caths				
	Diagnostic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	0.0	0.0	0.0	0.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	0.0	0.0	0.0	0.0
30 - 39	0.0	0.0	0.0	0.0
40 - 44	0.0	0.0	0.0	0.0
45 - 49	0.0	0.0	0.0	0.0
50 - 54	0.0	0.0	0.0	0.0
55 - 59	0.0	0.0	0.0	0.0
60 - 64	0.0	0.0	0.0	0.0
65 - 69	0.0	0.0	0.0	0.0
70 - 74	0.0	0.0	0.0	0.0
75 - 79	0.0	0.0	0.0	0.0
80 - 84	0.0	0.0	0.0	0.0
85 +	0.0	0.0	0.0	0.0

Therapeutic Cardiac Caths				
	Therapeutic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	6.0	6.0	0.0	0.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	0.0	0.0	0.0	0.0
30 - 39	0.0	0.0	0.0	0.0
40 - 44	2.0	2.0	0.0	0.0
45 - 49	0.0	0.0	0.0	0.0
50 - 54	0.0	0.0	0.0	0.0
55 - 59	0.0	0.0	0.0	0.0
60 - 64	0.0	0.0	0.0	0.0
65 - 69	0.0	0.0	0.0	0.0
70 - 74	2.0	2.0	0.0	0.0
75 - 79	0.0	0.0	0.0	0.0
80 - 84	2.0	2.0	0.0	0.0
85 +	0.0	0.0	0.0	0.0

CC - Cardiac Catheterization PV - Peripheral Vascular Catheterization EP - Electrophysiological Studies

* Cardiac Cath ICD-9, ICD-10, CPT codes and service categories provided by the Bureau of TennCare and the Tennessee Hospital Association.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Office of Healthcare Facility Statistics. Hospital Discharge Data System, 2013-2015. Nashville, TN.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment

Certificate of Need Cardiac Cath Calculations based on 2009 State Health Plan Standards

Morristown - Hamblen Healthcare System (State ID 32242)

Highest Weighted* Cardiac Cath Services Provided - Hospital Discharge Recorded Data - 2013-2015

Diagnostic Cardiac Caths				
	Diagnostic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	1,815.0	1,800.0	15.0	0.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	3.0	3.0	0.0	0.0
30 - 39	40.0	40.0	0.0	0.0
40 - 44	93.0	93.0	0.0	0.0
45 - 49	128.0	128.0	0.0	0.0
50 - 54	243.0	243.0	0.0	0.0
55 - 59	281.0	278.0	3.0	0.0
60 - 64	271.5	270.0	1.5	0.0
65 - 69	260.5	256.0	4.5	0.0
70 - 74	233.0	230.0	3.0	0.0
75 - 79	150.5	149.0	1.5	0.0
80 - 84	79.0	79.0	0.0	0.0
85 +	32.5	31.0	1.5	0.0

Therapeutic Cardiac Caths				
	Therapeutic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	1,462.0	100.0	1,350.0	12.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	0.0	0.0	0.0	0.0
30 - 39	39.0	6.0	33.0	0.0
40 - 44	58.0	4.0	54.0	0.0
45 - 49	94.0	0.0	90.0	4.0
50 - 54	162.0	12.0	150.0	0.0
55 - 59	220.0	22.0	198.0	0.0
60 - 64	219.0	24.0	195.0	0.0
65 - 69	197.0	6.0	183.0	8.0
70 - 74	194.0	14.0	180.0	0.0
75 - 79	119.0	8.0	111.0	0.0
80 - 84	103.0	4.0	99.0	0.0
85 +	57.0	0.0	57.0	0.0

CC - Cardiac Catheterization PV - Peripheral Vascular Catheterization EP - Electrophysiological Studies

* Cardiac Cath ICD-9, ICD-10, CPT codes and service categories provided by the Bureau of TennCare and the Tennessee Hospital Association.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Office of Healthcare Facility Statistics. Hospital Discharge Data System, 2013-2015. Nashville, TN.

Lakeway Regional Hospital (State ID 32252)

Highest Weighted* Cardiac Cath Services Provided - Hospital Discharge Recorded Data - 2013-2015

Diagnostic Cardiac Caths				
	Diagnostic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	34.5	33.0	1.5	0.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	1.0	1.0	0.0	0.0
30 - 39	2.5	1.0	1.5	0.0
40 - 44	0.0	0.0	0.0	0.0
45 - 49	3.0	3.0	0.0	0.0
50 - 54	5.0	5.0	0.0	0.0
55 - 59	2.0	2.0	0.0	0.0
60 - 64	5.0	5.0	0.0	0.0
65 - 69	2.0	2.0	0.0	0.0
70 - 74	10.0	10.0	0.0	0.0
75 - 79	3.0	3.0	0.0	0.0
80 - 84	1.0	1.0	0.0	0.0
85 +	0.0	0.0	0.0	0.0

Therapeutic Cardiac Caths				
	Therapeutic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	6.0	0.0	6.0	0.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	0.0	0.0	0.0	0.0
30 - 39	0.0	0.0	0.0	0.0
40 - 44	0.0	0.0	0.0	0.0
45 - 49	0.0	0.0	0.0	0.0
50 - 54	0.0	0.0	0.0	0.0
55 - 59	0.0	0.0	0.0	0.0
60 - 64	0.0	0.0	0.0	0.0
65 - 69	3.0	0.0	3.0	0.0
70 - 74	0.0	0.0	0.0	0.0
75 - 79	3.0	0.0	3.0	0.0
80 - 84	0.0	0.0	0.0	0.0
85 +	0.0	0.0	0.0	0.0

CC - Cardiac Catheterization PV - Peripheral Vascular Catheterization EP - Electrophysiological Studies

* Cardiac Cath ICD-9, ICD-10, CPT codes and service categories provided by the Bureau of TennCare and the Tennessee Hospital Association.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Office of Healthcare Facility Statistics. Hospital Discharge Data System, 2013-2015. Nashville, TN.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment

Certificate of Need Cardiac Cath Calculations based on 2009 State Health Plan Standards

Tennova Healthcare - Jefferson Memorial Hospital (State ID 45242)

Highest Weighted* Cardiac Cath Services Provided - Hospital Discharge Recorded Data - 2013-2015

Diagnostic Cardiac Caths				
	Diagnostic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	32.0	32.0	0.0	0.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	0.0	0.0	0.0	0.0
30 - 39	1.0	1.0	0.0	0.0
40 - 44	0.0	0.0	0.0	0.0
45 - 49	0.0	0.0	0.0	0.0
50 - 54	2.0	2.0	0.0	0.0
55 - 59	4.0	4.0	0.0	0.0
60 - 64	4.0	4.0	0.0	0.0
65 - 69	6.0	6.0	0.0	0.0
70 - 74	4.0	4.0	0.0	0.0
75 - 79	2.0	2.0	0.0	0.0
80 - 84	5.0	5.0	0.0	0.0
85 +	4.0	4.0	0.0	0.0

Therapeutic Cardiac Caths				
	Therapeutic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	127.0	88.0	39.0	0.0
0 - 17	8.0	8.0	0.0	0.0
18 - 29	7.0	4.0	3.0	0.0
30 - 39	10.0	10.0	0.0	0.0
40 - 44	12.0	6.0	6.0	0.0
45 - 49	2.0	2.0	0.0	0.0
50 - 54	13.0	10.0	3.0	0.0
55 - 59	6.0	6.0	0.0	0.0
60 - 64	11.0	8.0	3.0	0.0
65 - 69	14.0	8.0	6.0	0.0
70 - 74	8.0	2.0	6.0	0.0
75 - 79	15.0	6.0	9.0	0.0
80 - 84	12.0	12.0	0.0	0.0
85 +	9.0	6.0	3.0	0.0

CC - Cardiac Catheterization PV - Peripheral Vascular Catheterization EP - Electrophysiological Studies

* Cardiac Cath ICD-9, ICD-10, CPT codes and service categories provided by the Bureau of TennCare and the Tennessee Hospital Association.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Office of Healthcare Facility Statistics. Hospital Discharge Data System, 2013-2015. Nashville, TN.

Fort Sanders Regional Medical Center (State ID 47212)

Highest Weighted* Cardiac Cath Services Provided - Hospital Discharge Recorded Data - 2013-2015

Diagnostic Cardiac Caths				
	Diagnostic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	3,368.0	3,308.0	54.0	6.0
0 - 17	2.0	2.0	0.0	0.0
18 - 29	13.0	13.0	0.0	0.0
30 - 39	61.0	61.0	0.0	0.0
40 - 44	116.5	115.0	1.5	0.0
45 - 49	224.5	223.0	1.5	0.0
50 - 54	327.0	327.0	0.0	0.0
55 - 59	431.0	420.0	9.0	2.0
60 - 64	462.5	455.0	7.5	0.0
65 - 69	574.0	563.0	9.0	2.0
70 - 74	455.0	443.0	12.0	0.0
75 - 79	357.0	351.0	6.0	0.0
80 - 84	217.0	212.0	3.0	2.0
85 +	127.5	123.0	4.5	0.0

Therapeutic Cardiac Caths				
	Therapeutic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	2,868.0	444.0	2,316.0	108.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	9.0	0.0	9.0	0.0
30 - 39	35.0	2.0	33.0	0.0
40 - 44	122.0	14.0	108.0	0.0
45 - 49	203.0	32.0	171.0	0.0
50 - 54	294.0	26.0	252.0	16.0
55 - 59	389.0	38.0	339.0	12.0
60 - 64	375.0	62.0	297.0	16.0
65 - 69	442.0	88.0	342.0	12.0
70 - 74	343.0	52.0	279.0	12.0
75 - 79	307.0	64.0	231.0	12.0
80 - 84	203.0	34.0	153.0	16.0
85 +	146.0	32.0	102.0	12.0

CC - Cardiac Catheterization PV - Peripheral Vascular Catheterization EP - Electrophysiological Studies

* Cardiac Cath ICD-9, ICD-10, CPT codes and service categories provided by the Bureau of TennCare and the Tennessee Hospital Association.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Office of Healthcare Facility Statistics. Hospital Discharge Data System, 2013-2015. Nashville, TN.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment

Certificate of Need Cardiac Cath Calculations based on 2009 State Health Plan Standards

Tennova Healthcare (State ID 47242)

Highest Weighted* Cardiac Cath Services Provided - Hospital Discharge Recorded Data - 2013-2015

Diagnostic Cardiac Caths				
	Diagnostic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	3,716.0	3,529.0	39.0	148.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	20.0	16.0	0.0	4.0
30 - 39	118.0	111.0	3.0	4.0
40 - 44	191.5	181.0	4.5	6.0
45 - 49	319.5	318.0	1.5	0.0
50 - 54	422.5	404.0	4.5	14.0
55 - 59	508.5	485.0	1.5	22.0
60 - 64	457.0	438.0	3.0	16.0
65 - 69	540.5	520.0	4.5	16.0
70 - 74	446.0	413.0	9.0	24.0
75 - 79	362.0	330.0	6.0	26.0
80 - 84	216.5	199.0	1.5	16.0
85 +	114.0	114.0	0.0	0.0

Therapeutic Cardiac Caths				
	Therapeutic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	5,372.0	564.0	4,152.0	656.0
0 - 17	4.0	4.0	0.0	0.0
18 - 29	25.0	6.0	15.0	4.0
30 - 39	150.0	20.0	102.0	28.0
40 - 44	216.0	26.0	174.0	16.0
45 - 49	440.0	34.0	390.0	16.0
50 - 54	575.0	48.0	483.0	44.0
55 - 59	701.0	96.0	549.0	56.0
60 - 64	687.0	68.0	555.0	64.0
65 - 69	798.0	74.0	612.0	112.0
70 - 74	678.0	72.0	498.0	108.0
75 - 79	556.0	62.0	366.0	128.0
80 - 84	304.0	28.0	216.0	60.0
85 +	238.0	26.0	192.0	20.0

CC - Cardiac Catheterization PV - Peripheral Vascular Catheterization EP - Electrophysiological Studies

* Cardiac Cath ICD-9, ICD-10, CPT codes and service categories provided by the Bureau of TennCare and the Tennessee Hospital Association.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Office of Healthcare Facility Statistics. Hospital Discharge Data System, 2013-2015. Nashville, TN.

University of Tennessee Memorial Hospital (State ID 47282)

Highest Weighted* Cardiac Cath Services Provided - Hospital Discharge Recorded Data - 2013-2015

Diagnostic Cardiac Caths				
	Diagnostic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	7,098.0	6,038.0	144.0	916.0
0 - 17	162.0	162.0	0.0	0.0
18 - 29	105.0	25.0	0.0	80.0
30 - 39	203.0	133.0	6.0	64.0
40 - 44	296.0	245.0	9.0	42.0
45 - 49	466.0	408.0	12.0	46.0
50 - 54	720.5	629.0	13.5	78.0
55 - 59	895.5	785.0	22.5	88.0
60 - 64	1,026.0	900.0	24.0	102.0
65 - 69	1,140.5	954.0	16.5	170.0
70 - 74	931.5	799.0	16.5	116.0
75 - 79	635.0	546.0	9.0	80.0
80 - 84	343.5	303.0	10.5	30.0
85 +	173.5	149.0	4.5	20.0

Therapeutic Cardiac Caths				
	Therapeutic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	7,342.0	2,018.0	4,068.0	1,256.0
0 - 17	166.0	76.0	66.0	24.0
18 - 29	64.0	18.0	6.0	40.0
30 - 39	193.0	34.0	111.0	48.0
40 - 44	302.0	48.0	198.0	56.0
45 - 49	516.0	120.0	348.0	48.0
50 - 54	699.0	188.0	411.0	100.0
55 - 59	962.0	274.0	552.0	136.0
60 - 64	1,095.0	274.0	633.0	188.0
65 - 69	1,168.0	348.0	552.0	268.0
70 - 74	999.0	298.0	513.0	188.0
75 - 79	618.0	206.0	312.0	100.0
80 - 84	377.0	92.0	249.0	36.0
85 +	183.0	42.0	117.0	24.0

CC - Cardiac Catheterization PV - Peripheral Vascular Catheterization EP - Electrophysiological Studies

* Cardiac Cath ICD-9, ICD-10, CPT codes and service categories provided by the Bureau of TennCare and the Tennessee Hospital Association.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Office of Healthcare Facility Statistics. Hospital Discharge Data System, 2013-2015. Nashville, TN.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment

Certificate of Need Cardiac Cath Calculations based on 2009 State Health Plan Standards

Parkwest Medical Center (State ID 47322)

Highest Weighted* Cardiac Cath Services Provided - Hospital Discharge Recorded Data - 2013-2015

Diagnostic Cardiac Caths				
	Diagnostic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	8,226.5	8,078.0	112.5	36.0
0 - 17	4.0	4.0	0.0	0.0
18 - 29	20.0	18.0	0.0	2.0
30 - 39	178.0	172.0	6.0	0.0
40 - 44	336.5	327.0	7.5	2.0
45 - 49	530.5	521.0	7.5	2.0
50 - 54	776.5	773.0	1.5	2.0
55 - 59	1,066.5	1,047.0	13.5	6.0
60 - 64	1,207.5	1,194.0	7.5	6.0
65 - 69	1,402.5	1,376.0	22.5	4.0
70 - 74	1,199.5	1,178.0	13.5	8.0
75 - 79	838.5	815.0	19.5	4.0
80 - 84	454.5	444.0	10.5	0.0
85 +	212.0	209.0	3.0	0.0

Therapeutic Cardiac Caths				
	Therapeutic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	5,810.0	716.0	4,722.0	372.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	10.0	0.0	6.0	4.0
30 - 39	97.0	12.0	81.0	4.0
40 - 44	251.0	22.0	225.0	4.0
45 - 49	348.0	38.0	306.0	4.0
50 - 54	537.0	50.0	471.0	16.0
55 - 59	760.0	108.0	624.0	28.0
60 - 64	785.0	108.0	621.0	56.0
65 - 69	960.0	100.0	792.0	68.0
70 - 74	830.0	98.0	660.0	72.0
75 - 79	621.0	88.0	465.0	68.0
80 - 84	394.0	56.0	306.0	32.0
85 +	217.0	36.0	165.0	16.0

CC - Cardiac Catheterization PV - Peripheral Vascular Catheterization EP - Electrophysiological Studies

* Cardiac Cath ICD-9, ICD-10, CPT codes and service categories provided by the Bureau of TennCare and the Tennessee Hospital Association.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Office of Healthcare Facility Statistics. Hospital Discharge Data System, 2013-2015. Nashville, TN.

Tennoval Healthcare Turkey Creek Medical Center (State ID 47332)

Highest Weighted* Cardiac Cath Services Provided - Hospital Discharge Recorded Data - 2013-2015

Diagnostic Cardiac Caths				
	Diagnostic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	1,567.0	1,355.0	24.0	188.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	8.0	4.0	0.0	4.0
30 - 39	25.0	21.0	0.0	4.0
40 - 44	60.5	53.0	1.5	6.0
45 - 49	107.5	98.0	1.5	8.0
50 - 54	147.5	135.0	4.5	8.0
55 - 59	194.0	168.0	6.0	20.0
60 - 64	217.5	181.0	4.5	32.0
65 - 69	235.0	217.0	0.0	18.0
70 - 74	211.0	171.0	0.0	40.0
75 - 79	173.0	137.0	6.0	30.0
80 - 84	127.0	111.0	0.0	16.0
85 +	61.0	59.0	0.0	2.0

Therapeutic Cardiac Caths				
	Therapeutic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	2,160.0	306.0	1,494.0	360.0
0 - 17	10.0	4.0	6.0	0.0
18 - 29	13.0	2.0	3.0	8.0
30 - 39	37.0	6.0	27.0	4.0
40 - 44	69.0	6.0	51.0	12.0
45 - 49	123.0	16.0	87.0	20.0
50 - 54	181.0	22.0	123.0	36.0
55 - 59	249.0	34.0	171.0	44.0
60 - 64	318.0	50.0	240.0	28.0
65 - 69	304.0	36.0	216.0	52.0
70 - 74	301.0	42.0	207.0	52.0
75 - 79	261.0	54.0	159.0	48.0
80 - 84	179.0	28.0	123.0	28.0
85 +	115.0	6.0	81.0	28.0

CC - Cardiac Catheterization PV - Peripheral Vascular Catheterization EP - Electrophysiological Studies

* Cardiac Cath ICD-9, ICD-10, CPT codes and service categories provided by the Bureau of TennCare and the Tennessee Hospital Association.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Office of Healthcare Facility Statistics. Hospital Discharge Data System, 2013-2015. Nashville, TN.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment

Certificate of Need Cardiac Cath Calculations based on 2009 State Health Plan Standards

Tennova Healthcare North Knoxville Medical Center (State ID 47352)

Highest Weighted* Cardiac Cath Services Provided - Hospital Discharge Recorded Data - 2013-2015

Diagnostic Cardiac Caths				
	Diagnostic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	39.0	39.0	0.0	0.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	1.0	1.0	0.0	0.0
30 - 39	3.0	3.0	0.0	0.0
40 - 44	2.0	2.0	0.0	0.0
45 - 49	2.0	2.0	0.0	0.0
50 - 54	5.0	5.0	0.0	0.0
55 - 59	3.0	3.0	0.0	0.0
60 - 64	6.0	6.0	0.0	0.0
65 - 69	9.0	9.0	0.0	0.0
70 - 74	5.0	5.0	0.0	0.0
75 - 79	1.0	1.0	0.0	0.0
80 - 84	1.0	1.0	0.0	0.0
85 +	1.0	1.0	0.0	0.0

Therapeutic Cardiac Caths				
	Therapeutic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	102.0	62.0	36.0	4.0
0 - 17	4.0	4.0	0.0	0.0
18 - 29	4.0	4.0	0.0	0.0
30 - 39	5.0	2.0	3.0	0.0
40 - 44	3.0	0.0	3.0	0.0
45 - 49	5.0	2.0	3.0	0.0
50 - 54	10.0	6.0	0.0	4.0
55 - 59	16.0	10.0	6.0	0.0
60 - 64	17.0	8.0	9.0	0.0
65 - 69	14.0	8.0	6.0	0.0
70 - 74	10.0	4.0	6.0	0.0
75 - 79	10.0	10.0	0.0	0.0
80 - 84	4.0	4.0	0.0	0.0
85 +	0.0	0.0	0.0	0.0

CC - Cardiac Catheterization PV - Peripheral Vascular Catheterization EP - Electrophysiological Studies

* Cardiac Cath ICD-9, ICD-10, CPT codes and service categories provided by the Bureau of TennCare and the Tennessee Hospital Association.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Office of Healthcare Facility Statistics. Hospital Discharge Data System, 2013-2015. Nashville, TN.

LeConte Medical Center (State ID 78232)

Highest Weighted* Cardiac Cath Services Provided - Hospital Discharge Recorded Data - 2013-2015

Diagnostic Cardiac Caths				
	Diagnostic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	437.5	427.0	10.5	0.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	0.0	0.0	0.0	0.0
30 - 39	9.0	9.0	0.0	0.0
40 - 44	16.0	16.0	0.0	0.0
45 - 49	39.0	39.0	0.0	0.0
50 - 54	35.5	34.0	1.5	0.0
55 - 59	63.5	62.0	1.5	0.0
60 - 64	57.0	54.0	3.0	0.0
65 - 69	71.0	68.0	3.0	0.0
70 - 74	61.0	61.0	0.0	0.0
75 - 79	49.5	48.0	1.5	0.0
80 - 84	24.0	24.0	0.0	0.0
85 +	12.0	12.0	0.0	0.0

Therapeutic Cardiac Caths				
	Therapeutic	Service Categories		
Age Grp	Total	CC	PV	EP
Total	11.0	2.0	9.0	0.0
0 - 17	0.0	0.0	0.0	0.0
18 - 29	0.0	0.0	0.0	0.0
30 - 39	3.0	0.0	3.0	0.0
40 - 44	0.0	0.0	0.0	0.0
45 - 49	0.0	0.0	0.0	0.0
50 - 54	0.0	0.0	0.0	0.0
55 - 59	3.0	0.0	3.0	0.0
60 - 64	0.0	0.0	0.0	0.0
65 - 69	2.0	2.0	0.0	0.0
70 - 74	3.0	0.0	3.0	0.0
75 - 79	0.0	0.0	0.0	0.0
80 - 84	0.0	0.0	0.0	0.0
85 +	0.0	0.0	0.0	0.0

CC - Cardiac Catheterization PV - Peripheral Vascular Catheterization EP - Electrophysiological Studies

* Cardiac Cath ICD-9, ICD-10, CPT codes and service categories provided by the Bureau of TennCare and the Tennessee Hospital Association.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Office of Healthcare Facility Statistics. Hospital Discharge Data System, 2013-2015. Nashville, TN.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment

Certificate of Need Cardiac Cath Calculations based on 2009 State Health Plan Standards

From the 2015 Joint Annual Reports (JAR) of Hospitals there are 24 Cardiac Cath labs in operation in the service area:

Methodist Medical Center of Oak Ridge – 2 labs
Morristown-Hamblen Healthcare System – 2 labs
Fort Sanders Regional Medical Center – 4 labs
Tennova Healthcare – 3 labs
University of Tennessee Memorial Hospital – 5 labs
Parkwest Medical Center – 5 labs
Tennova Healthcare-Turkey Creek Medical Center – 1 lab
Tennova Healthcare-North Knoxville Medical Center – 1 lab
LeConte Medical Center – 1 lab

Service Area Hospital	Diagnostic Cardiac Caths	Therapeutic Cardiac Caths	Total Cardiac Caths
Methodist Medical Center of Oak Ridge (State ID 01202)	4,316.0	3,187.0	7,503.0
Tennova Healthcare - LaFollette Medical Center (State ID 07242)	3.0	21.0	24.0
Tennova Healthcare - Newport Medical Center (State ID 15222)	0.0	6.0	6.0
Morristown - Hamblen Healthcare System (State ID 32242)	1,815.0	1,462.0	3,277.0
Lakeway Regional Hospital (State ID 32252)	34.5	6.0	40.5
Tennova Healthcare - Jefferson Memorial Hospital (State ID 45242)	32.0	127.0	159.0
Fort Sander Regional Medical Center (State ID 47212)	3,368.0	2,868.0	6,236.0
Tennova Healthcare (State ID 47242)	3,716.0	5,372.0	9,088.0
University of Tennessee Memorial Hospital (State ID 47282)	7,098.0	7,342.0	14,440.0
Parkwest Medical Center (State ID 47322)	8,226.5	5,810.0	14,036.5
Tennova Healthcare Turkey Creek Medical Center (State ID 47332)	1,567.0	2,160.0	3,727.0
Tennova Healthcare North Knoxville Medical Center (State ID 47352)	39.0	102.0	141.0
LeConte Medical Center (State ID 78232)	437.5	11.0	448.5
Totals	30,652.5	28,474.0	59,126.5

# of Caridac Cath Labs in Service Area (JAR)	24
Capacity per Lab (defined by standards)	2,000
Total Capacity in Service Area	48,000
Percent of Existing Services to Capacity	123.2%

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment

Attachment B-Need-A.16

Physicians' Curriculum Vitae

YASIR NAEEM AKHTAR

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Charlottesville, VA 22901
Phone # 317-341-0297
Email: yasirakhtar@virginia.edu

PERSONAL DATA

Birthplace: - Gloversville, N.Y.
Nationality: - U.S
Languages: - English, Urdu

EDUCATION/TRAINING

2013-2014

University of Virginia, Interventional Cardiology Fellowship

2009- 2013

University of Virginia, Department of Cardiology, Fellowship Program
Vascular Biology Research Training Grant, NIH T32, HL07355
"Consultant of the Year" award from the ER - 2012

2004- 2007

Indiana University, Department of Medicine, Internal Medicine Categorical Residency Program

Nomination for Resident's Choice Award for Outstanding PGY-1

1997-2002

The Aga Khan University Medical College, Karachi, Pakistan
M.B., B.S.(Bachelors in Medicine , Bachelors in Surgery)

1994-1996

Government College, Multan, Pakistan
Higher Secondary School Certificate Examination

CERTIFICATIONS

American Board of Cardiology
Certified 2013 to 2023

Medical Licensure
State of Virginia – 2009 to 2014

American Board of Internal Medicine
Certified 2007 to 2017

ECFMG Certification
TOEFL – 273 Passed, May 20, 2003
Step 1 – 253 (99th Percentile) Passed, May 7th, 2003
Step 2 – 223 (90th Percentile) Passed, September, 2003
CSA (Clinical Skills Assessment) – Passed, October, 15, 2003
Step 3 – 205 (84th Percentile) Passed, February 27, 2006

ACLS/BLS
June 2012 to 2014

Indiana University Protection of Human Research Participants
Certification Test passed in May 2007

Investigator 101
Certification Test passed in June 2008

WORK EXPERIENCE

Research Assistant
Rehman Lab, Division of Cardiology, University of Chicago
Nov 2008 to June 2009
Supervisor: Jalees Rehman, M.D

Physician
EHE International
Chicago, IL
Nov. 2008 to June 2009

Assistant Professor of Clinical Medicine
Indiana University, Department of Medicine
Indiana University Medical Group, Hospitalist, Wishard Memorial Hospital
July 2007 to November 2008

Medical Officer
Heart Care, Abdullah Medical Center, Multan, Pakistan
October 2002 to June 2004

RESEARCH POSTERS

- **Genetic Ablation of Cyclophilin D, a component of the mitochondrial permeability transition pore, improves insulin sensitivity in high-fat fed mice**
  Yasir N Akhtar, Vitor A Lira, Mitsuhara Okutsa, Mei Zhang, Nicohlas P Greene, Kyle L Hoehn, Zhen Yan
  Outstanding Poster Award, Virginia Chapter American College of Cardiology Annual Meeting, Dec. 2010.

- **The Cytokine Tumor Necrosis Factor-Alpha Acutely Decreases**

Mitochondrial Oxygen Consumption in Human Endothelial Cells
Yasir Akhtar, *Yanmin Zhang, Peter T. Toth, Glenn Marsboom, Stephen L. Archer and Jalees Rehman*
Poster Presentation - Cardiovascular Research Day , June 5 , 2009
University of Chicago

- **Clinical Predictors of Adverse Outcomes in Patients Implanted with Left Ventricular Assist Devices for Bridge to Transplant**
Akhtar YN, Ghumman W, Mahenthiran J
5th Place – 2006 Indiana ACP Chapter's Associates Abstract Competition for Research. Nov. 17th 2006

- **Cholera's Heavy Toll in Infants and Young Children: A Study in the Developing World**
Fahd Chaudhry, ***Yasir Akhtar****, Abdul Gaffar Billoo*
Oral Presentation at the 12th European Students Conference, Berlin, Germany. November 2001

- **Hydatid Cyst of the Lung: Clinical Presentation and Outcome**
Akhtar YN, *Jan A, Khokhar AS, Bangash M A, S Fatimi*
Oral Presentation at the 12th European Students Conference, Berlin
Poster Presentation at the Royal Society for Tropical Medicine and Hygiene in London, 2001
Poster Presentation at the 10th International Congress of Infectious Diseases in Singapore, March 2002.

- **Suicidal Ideation in Medical Students: A Study in a Private Medical College in Karachi**
Akram S, Ahmad A, Ahmad S, Ahmad M, ***Akhtar Y***
Poster presentation at the 12th European Students Conference, Berlin, Germany. Oct 2002

RESEARCH PUBLICATION

- **Opening of the Mitochondrial Permeability Transition Pore is Required for Insulin Resistance in Skeletal Muscle**
Taddeo EP, Laker RC, Breen DS, ***Akhtar YN****, Kenwood BM, Liao JA, Zhang M, Fazaklrly DJ, Tomsig JL, Harris TE, Keller SR, Chow JD, Lynch KR, Chokki M, Molkentin JD, Turner N, James DE, Yan Z, Hoehn KL*
Molecular Metabolism, Available online 26 Novemeber 2013,
ISSN 2212-8778,
http://www.sciencedirect.com/science/article/pii/S221287781300121X

- **Regulation of exercise-induced fiber type transformation, mitochondrial biogenesis, and angiogenesis in skeletal muscle**
Yan Z, Okutsu M, ***Akhtar YN****, Lira VA*

J Appl Physio. 2010 Oct 28. PMID: 21030673

- **Autophagy in Skeletal Muscle is Required for Exercise Training-Induced Improvement in Glucose Tolerance**
  Lira, Vitor A.; Okutsu, Mitsuharu; ***Akhtar, Yasir*** *N.; Zhang, Mei; Yan, Zhen*
  Medicine & Science in Sports & Exercise : October 2010 – Vol.42 – Issue 10- p8 . doi: 10.1240/01.MSS.0000389410.73450.71

- **Genetic Ablation of Cyclophilin D, a component of the mitochondrial permeability transition pore, improves insulin sensitivity in high-fat fed mice**
  Yasir N Akhtar*, Vitor A Lira, Mitsuhara Okutsa, Mei Zhang, Kyle L Hoehn, Zhen Yan*
  FASEB J. 2010 24:lb626

- **Obtaining Femoral Access using Fluroscopic Guidance Reduces Sheath Variability**
  Yasir Akhtar, *Venayak Belamkar, Patrick Bourdillon*
  Catheter Cardiovasc Interv. 2009 Jun 1;73 Suppl 1:S86-87

- **Echocardiography vs. Right Heart Catherization in Detecting of Pulmonary Hypertension in Patients with Aortic Stenosis**
  Yasir Akhtar, *Elizabeth von der Lohe ,*
  Catheter Cardiovasc Interv. 2009 Jun 1;73 Suppl 1:S24-25

- **Paediatric stool cultures: seasonal variation in bacterial pathogens isolated in Karachi, Pakistan.**
  Alam M, Ahmed M, Ali SS, Atiq M, **Akhtar YN**, Ansari A
  Trop Doct. 2005 Jan; 35(1): 21-3

- **Seasonal variation in bacterial pathogens isolated from stool samples in Karachi, Pakistan.**
  Alam M, **Akhtar YN**, Ali SS, Ahmed M, Atiq M, Ansari A, Chaudhry FA, Bashir H, Bangash MA, Awais A, Safdar A, Hasnain SF, Zafar A
  Journal of Pakistan Medical Association (JPMA), 2003 Mar; 53(3): 125-9

EXTRACURRICULAR ACTIVITIES

- **ACS Quality Support Team (2013-On going)**
- **Cath/PCI Quality Support Team (2013-On going)**
- **Hostel Representative (2000-2001)**
  The Aga Khan University, Karachi

- **Sports Representative (2001-2002)**
  The Aga Khan University, Karachi
- **International Medical Graduate Committee Member**
  (2005-2007) Resident Member
  (2007- 2008) Faculty Advisor
  Indiana University, Department of Medicine

ELECTIVE/VOLUNTEER WORK

- **PLOS ONE Journal –Reviewer**
  2013- On going

- **Volunteer Chaplain**
  Albermarle County Prison
  Dec 2011 – On going

- **Charlottesville Free Clinic, Charlottesville, VA**
  Medical Director/Physician Volunteer
  Sept 2009 – Ongoing

- **Islamic Society of Central Virginia**
  Board Member/Activity Co-ordinator
  July 2012 - Ongoing

- **Remote Access Medicine , Physician Volunteer**
  Medical Mission to Wise County, VA
  June 2012

- **Community Health Clinic, Chicago, IL**
  Physician Volunteer, Internal Medicine
  Nov. 2008 to June 2009

- **Research Assistant: Rehman Lab, Krannert Institute of Cardiology, Indiana University** June 2007 to December 2007
  Supervisor: Jalees Rehman , M.D

- **Medical Officer ,** Heart Care, Abdullah Medical Center, Multan, Pakistan October 2002 to June 2004

- **Sub internship: Cardiology Consult Service at UCLA-Harbor Medical Center,** Torrance, CA in March 2002.
  Supervisor: Dr. John Michael Criley

- **Sub internship: Pediatric ICU of Hasbro's Children's Hospital (Brown University School of Medicine),** Providence, RI in April 2002
  Supervisor: Dr. Leslie Doughty

- **Sub internship: Cardiology at the Ruby Memorial Hospital (West Virginia University),** Morgantown, WV in May 2002
  Supervisor: Dr. Wissam Gharib

HOBBIES AND INTERESTS

- **Member of the Montebello Cricket Club (MBCC)**
- **Swimming: 3rd Place in 50 m. Freestyle and 3rd Place in 150 m. Medley at 2002 Aga Khan University Swimming Gala**
- **Soccer: Goalkeeper of Aga Khan University Soccer Team 2000-2001**
- **Cricket: Bowler for the Aga Khan University Cricket Team 2000-2001**

PROFESSIONAL SOCIETIES

- **ACC FIT Member (American College of Cardiology)**

ADDRESS – 1320 W SOMERVILLE AVE, APT 711, PHILADELPHIA PA 19141
CELL – 520 225 9182 • EMAIL – FAHDCH@GMAIL.COM

FAHD A. CHAUDHRY, MD

CURRICULUM VITAE

REVISED: 5/12/2015

WORK EXPERIENCE/ACTIVITIES

July 2014 – June 2016	2 year combined Interventional Cardiology and Peripheral/Structural Fellowship	
	Albert Einstein Medical Center	Philadelphia, PA
July 2011 – July 2014	Cardiology Fellowship	Morgantown, WV
	West Virginia University	
Aug 2007 – Jul 2011	University Physicians Healthcare/University Medical Center/Arizona Health Sciences Center	Tucson, AZ
	Assistant Professor (Clinical) – Internal Medicine	
Aug 2004 – Aug 2007	Residency, Internal Medicine	Houston, Texas
	University of Texas Health Sciences Center	
March 2004 – July 2004	Internship in Surgical Oncology	Lahore, Pakistan
	Shaukat Khanum Memorial Trust Cancer Hospital	

EDUCATION

Sep 09 – May 11	Master of Science, Biomedical Engineering University of Arizona *Thesis: A Novel CPR Algorithm in Swine*	Tucson, AZ
Jan 2004	ECFMG Certification *Step 1: 99 (268)* *April 2003* *Step 2: 99 (260)* *Sep 2003* *Step 3 93: (229)* *Feb 2004*	
Oct 1997 – Oct 2002	The Aga Khan University *MD: High honors in biochemistry and honors in physiology, pharmacology, ENT Head and neck surgery, Obstetrics and Gynecology, Surgery*	Karachi, Pakistan
Sep 1995 – Sep 1997	Government College *HSSC (Higher Secondary School Certificate)*	Lahore, Pakistan
June 1986 – June 1995	Beaconhouse Public School *GCE O Level (University of Cambridge, UK)*	Lahore, Pakistan

PEER REVIEWED JOURNAL ARTICLES

1. The Ventricular Fibrillation Waveform Approach to Direct Postshock Chest Compressions in a Swine Model of VF Arrest. McGovern M, Allen D, **Chaudhry F**, Conover Z, Hilwig R, Indik JH. J Emerg Med. 2015 Mar;48(3):373-81. doi: 10.1016/j.jemermed.2014.09.057. Epub 2014 Dec 6.

2. Effect of smoking on age at the time of Coronary Artery Bypass Graft Surgery: Baseline data results from the ROSETTA-CABG registry. Chaudhry MR, **Chaudhry FA**, Huynh T, Lader E, Rashid S, Okrainec K, Wou K, Eisenberg M. Heart Asia 2010 Vol: 2(1):48-51. DOI: 10.1136/ha.2009.001586

3. Pediatric stool cultures: seasonal variation in bacterial pathogens isolated in Karachi, Pakistan. Alam M, Ahmed M, Ali SS, Atiq M, Akhtar YN, Ansari A, **Chaudhry FA**, Bashir H, Farid-ul-Husnain S, Zafar A. Tropical Doctor. 2005 Jan;35(1):21-3 PMID 15712537

4. An investigation into the cardiovascular health of senior civil servants. Chaudhry MR, Rehman SU, **Chaudhry FA**. Pakistan Heart Journal Dec 2002;35(1-4):7-10 http://www.pakmedinet.com/6190

5. Primary prevention of coronary artery disease (review article). Chaudhry MR, **Chaudhry FA**. Pakistan Heart Journal Dec 2002;35(1-4):26-36. http://www.pakmedinet.com/6186

6. An electrocardiographic study of working people. **Chaudhry FA**, Chaudhry MR. The Professional, Vol 11 No. 4 Oct - Dec 2004;11(4):386-8 http://www.pakmedinet.com/14213

7. Seasonal variation in bacterial pathogens isolated from stool samples in Karachi, Pakistan. Alam M, Akhtar YN, Ali SS, Ahmed M, Atiq M, Ansari A, **Chaudhry FA**, Bashir H, Bangash MA, Awais A, Safdar A, Hasnain SF, Zafar A. Journal of the Pakistan Medical Association 2003 March;53(3):125-9 PMID 12779031

PEER REVIEWED ABSTRACTS AND PRESENTATIONS

1. Can a return of spontaneous circulation be achieved faster in a resuscitation algorithm that directs the duration of post-shock chest compressions according to the pre-shock value of the amplitude-spectral area? A study of VF cardiac arrest in normal swine – McGovern M, Allen D, **Chaudhry F**, Hilwig R, Kern K, Indik JH.
   1st prize, West Virginia chapter of the American College of Cardiology meeting, Nov 2012

2. Reappraisal Of The Evaluation Of Chest Pain In The Emergency Room - A Modern Cost Analysis Just In Time For Health Care Reform. **Chaudhry FA**, Ilyas F, Rashid S, Sorrell V http://content.onlinejacc.org/cgi/reprint/55/10_MeetingAbstracts/A131.E1232.pdf
   Poster presented at the annual meeting of the American College of Cardiology (ACC) 2010, Atlanta, GA

3. Impact of Obesity on Cardiac Stress Testing. **Chaudhry FA**, Ilyas F, Rashid S, Sorrell VL, Chaudhry MR. Abstract published in: Cardiovascular Revascularization Medicine July 2010 11(3):201-202
   Poster presented at Cardiovascular Research Technologies (CRT) 2010; Washington, DC

4. Multivessel coronary artery disease is common in hypertensive patients. Hakeem F, **Chaudhry FA**, Chaudhry MR
   Poster presented at Cardiovascular Research Technologies (CRT) 2009, Washington DC

5. Smokers are referred for coronary artery bypass graft surgery at a younger age than nonsmokers: results from The ROSETTA-CABG Registry. Chaudhry MR, **Chaudhry FA**,

Eisenberg M, Nguyen H, Duerr R, Del Core M, Fourchy D, et al. Abstract published in: Cardiovascular Revascularization Medicine July 2008 9(3):206
Poster presented at CRTonline 2008, Washington DC, Feb 2008

6. Cholera's heavy toll in infants and young children: a study in the developing world. **Chaudhry FA**, Akhtar YN, Billoo AG
Poster presented at 12th European Students' Conference, Berlin, Germany in Nov 2001

AWARDS RECEIVED

Nov 2012	1st Prize, Poster competition, West Virginia Chapter of the American College of Cardiology meeting
May 2012	2nd place, Echo jeopardy, Cardiovascular Medicine Update 2012, Allegheny Health Network
Sep 2002	Begum Shafiqa Ziaul Haq Scholarship for academic excellence Honors Call in Surgery
Aug 2001	Begum Shafiqa Ziaul Haq Scholarship, Dr Shaukat Haroon Scholarship for academic excellence Honours Call in Obstetrics and Gynaecology, Honours Call in ENT and Head and Neck Surgery – 3rd Professional Examination
Nov 1999	Honours in Biochemistry – 1st Professional Examination
June 1995	Gold Medalist – GCE O Level Exam (8 A grades)

INTERESTS AND ACTIVITIES

Tennis, soccer, hiking, travel.

Language fluencies: English, Urdu, Hindi, basic Spanish

Osareme Anthony Irivbogbe, M.D

21 Tynes Ln., Huntington. WV 25705. Phone: 646-756-0934. E-mail:osaremeirivbogbe@gmail.com

RESIDENCY & TRAINING:

July 2015—June 2016	**Fellow in training, Interventional Cardiology** Marshall University *Huntington, WV.*
July 2012-- June 2015	**General Adult Cardiology Training** **Chief Fellow.** Marshall University *Huntington, WV.*
July 2004 – June 2007	**Resident, Internal Medicine** Woodhull Medical and Mental Health Center *Brooklyn, NY.*

ACHIEVEMENTS:

July 2004 – June 2005	**Outstanding Intern of the year** Woodhull Medical and Mental Health Center
July 2006-- June 2007	**Outstanding Third year Resident of the year** Woodhull Medical and Mental Health Center
July 2006 – June2007	**Assistant Chief Resident** Woodhull Medical and Mental Health Center
July 2014--June 2015.	**Chief Fellow** **Marshall University**

WORK EXPERIENCE:

Nov.2007 – June 2012	**General Internist** Desert Oasis Medical Center *Laughlin, Nevada.*
Jan. 2010—June 2012	**Medical Director** Hospice Compassus *Bullhead City, Arizona.*
Mar.2010—June 2012	**Chairman Pharmaceuticals &Therapeutics Committee** Valley View Medical Center *Fort Mohave, Arizona.*
Jan. 2012—June2012	**Chairman Credentialing Committee** Western Arizona Medical Center *Bullhead City, Arizona.*
Feb. 2001 – June2012	**House Officer** County Hospital

Sangre Grande, Trinidad

Aug. 1998 –Sep.1999 — **Medical Officer**
Nigeria Airways Limited
Lagos, Nigeria

Sept. 1997 – Aug. 1998 — **House Officer**
General Hospital Lagos Island
Lagos, Nigeria

EDUCATION:

1989 – 1996 — **M.B.B.S., Bachelor of Medicine, Bachelor of Surgery**
University of Benin
Benin City, Edo State, Nigeria

LICENSURE & CERTIFICATION:

June 1998	USMLE, Step 1
Dec. 2001	USMLE, Step 2
May 2003	USMLE, Step 3
Oct. 2007	American Board of Internal Medicine Certification
Nov.2007	Nevada State Medical Board Licensure
July 2007	Arizona Medical Board Licensure
Sept.2014	National Board of Echocardiography (Special competence in Adult Echocardiography)
May 2015	Georgia Composite Medical Board

PERSONAL:

Gender:	Male
Date of Birth:	June 02 1973
Marital Status:	Married
Hobbies:	Music, outdoor sports, reading, travelling with my family.

Excellent References Available Upon Request

Bassem Abazid
10034 Willow Brook Circle
Louisville, KY 40223
(901) 484-7629
babazid01@gmail.com

EDUCATION

07/2012- Present	University of Louisville School of Medicine Cardiology Fellowship Program. Program Director: Glenn A. Hirsch, MD. Chief of Division of Cardiology: Roberto Bolli, MD. Anticipated graduation date is 07/2015.
08/2011- 06/2012	University of Alabama at Birmingham University Hospital Hospitalist: Medical Director James Lyman, MD.
06/2008- 07/2011	University of Alabama at Birmingham School of Medicine Internal Medicine Residency Program. Program Director: Gustavo R. Heudebert, MD. Chairman: Edward Abraham, MD.
08/2004- 06/2008	University of Tennessee Health Science Center College of Medicine MD.
01/2002- 05/2004	University of Tennessee at Chattanooga BS. Chemistry, *magna cum laude.*
08/1999- 12/2001	Chattanooga State T.C.C

CERTIFICATIOS

12/2009	USMLE Step 3
02/2008	USMLE Step 2 CS
11/2007	USMLE Step 2 CK
05/2006	USMLE Step 1
08/2011	The American Board of Internal Medicine
03/2012	Kentucky Medical License, Number 45167
12/2014	Nuclear Cardiology board Anticipated Echocardiography board in July 2015 Anticipated General Cardiology Board in October 2015

RESEARCH

2013- 2014	**First Author.** Bassem A. Abazid, *Outcomes with implantable cardioverter-defibrillator (ICD) therapy and/or improved left ventricular ejection fraction during the lifetime of the index device: a retrospective review.* An original Research Article, by Abazid, Haney and Gopinathannair, that evaluate the outcome and long-term benefit of

implantable cardioverter-defibrillator (ICDs) in veterans who undergo elective ICD generator replacement who never received an appropriate ICD therapy during the lifetime of the index device and/or whose left ventricular ejection fraction has improved to > 35% at the time of device replacement.

2009- 2010 **First Auther.**
Bassem A. Abazid, Quantification of Pulmonary/Systemic Shunt Ratio by Single-Acquisition Phase-Contrast Cardiovascular Magnetic Resonance. An original Research Article, by Abazid, Nagaraj, Desai, Misra, Gupta and Lloyd, that evaluate a novel cardiovascular MRI technique to measure intracardiac shunting, Qp/Qs ratio, using a modified "single-acquisition" plane (as opposed to the standard method of comparing Qp and Qs separately).

PROFESSIONAL AFFILIATIONS

2007- Present	American Heart Association (AHA).
2010- Present	American College of Physicians (ACP).
2012- Present	American College of Cardiology (ACC)

PERSONAL

Fluent in Arabic language.

R. ERIC DICKENSON, PA-C

CURRICULUM VITAE

PERSONAL DATA

Business Address: Knoxville HMA Cardiology, PPM, LLC
900 E. Oak Hill Ave.
Central Annex, Ste. 500
Knoxville, Tennessee 37917
(865) 525-6688

EDUCATION

1984 — B.S., Biology/Premed
Minor, Religious Studies
Virginia Commonwealth University
Richmond, Virginia

1986 — B.S. Physician Assistant
Trevecca Nazarene College
Nashville, Tennessee

CERTIFICATION

1986-Present — NCCPA, National Commission on Certification of Physician Assistants, Inc.

FACULTY APPOINTMENTS

1998-1999 — Clinical Faculty Appointment, Clinical Instructor,
Physician Assistant Department
Trevecca Nazarene University
Nashville, Tennessee

LICENSURE

Tennessee – Active
Kentucky – Inactive

HONORS AND ACTIVITIES

1980-1982	American Chemical Society Member
1982-1984	Phi Sigma National Honorary Biological Society Member
1985	Trevecca Nazarene College Deans List, Two Quarters
1985	National Deans List Member
1986	Outstanding Young Man of America Nomination

CURRENT STATUS

May 2010 - Present

Knoxville HMA Cardiology, PPM, LLC
Knoxville, Tennessee
Cardiology and Electrophysiology
Duties Include:

- Treadmill Stress Testing
- AEM Interpretation
- Pacemaker Follow-up Clinics
- Amiodarone Clinic
- Lipid Clinic
- Office and Hospital Admissions
- Hospital Rounds

HOSPITAL AFFILIATIONS

Claiborne County Hospital
Fort Sanders Regional Medical Center
Jefferson Memorial Hospital
Newport Medical Center
North Knoxville Medical Center
Parkwest Medical Center
Physician Regional Medical Center
Select Specialty Hospital at Physician Regional Medical Center
Turkey Creek Medical Center

Curriculum Vitae

Rashmi U. Hottigoudar, MD

Current Position

Clinical Cardiac Electrophysiologist
Heart and Vascular Center of West Tennessee
17 Centre Plaza Drive
Jackson, TN-38305

Home Address

19 Redwood Cove,
Jackson, TN-38305

Email

hottigoudar@gmail.com

Telephone

(502) 810-4813 (cell)

(502) 632-2557 (home)

Education

Graduate

1996-2003 **Mysore Medical College**
Rajiv Gandhi University of Health Sciences
Karnataka, India
Bachelor of Medicine and Bachelor of Surgery, M.B.B.S.

Undergraduate

1994-1996 **Sarvodaya Pre-University college**
Karnataka, India
Science (P.C.M.B)

Post Graduate Training

2011- 2013	**University of Louisville School of Medicine** *Louisville, Kentucky* ***Fellowship, Division of Clinical Cardiac Electrophysiology*** Chairman: Roberto Bolli, M.D. Program Director: Allen Gregory Deam, M.D
2009- 2012	**University of Louisville School of Medicine** *Louisville, Kentucky* ***Fellowship, Division of Cardiovascular Medicine*** Chairman: Roberto Bolli, M.D. Program Director: Stephen Wagner, M.D
2008-2009	**SUNY Upstate Medical University** *Syracuse, NY* ***Chief Resident, Department of Internal Medicine*** Chairman: Michael Iannuzzi, M.D., M.B.A Program Director: Stephen Knohl , M.D.
2005-2008	**SUNY Upstate Medical University** *Syracuse, NY* ***Residency, Department of Internal Medicine*** Chairman: David Duggan, M.D. Program Director: Vincent Frechette , M.D.

Work Experience

02 / 2004 – 01 / 2005	**Montgomery Family Medicine Associates** Silver Spring, MD-20904 Medical Assistant
09 / 2013 – Present	**Heart and Vascular Center of West Tennessee** Jackson, TN-38305 Clinical Cardiac Electrophysiologist

Volunteer Experience

12 / 2003 – 01 / 2004	**Montgomery Family Medicine Associates** Silver Spring, MD-20904.

05/ 2000 – 08 / 2002	**Swami Vivekananda Youth Movement (SVYM)** Karnataka, India.
01 / 1997 – 04 / 2000	**Community Health Care Programs** **Mysore Medical College** Karnataka, India.
06 / 1994 – 03 / 1996	**National Cadet Corps (NCC)** Karnataka, India.

Professional

Licensure

7/2013-Present	Tennessee # 50444 (Active)
3/2009-2/2014	Kentucky # 42569 (Inactive)
8/2008- 6/2009	Indiana # 01065706A (Expired)
7/2008 -Present	NPI # 1093978751

Certification

12 / 2004	ECFMG Certified (ID: 0-656-355-5)
08 / 2008	*American Board of Internal Medicine* Internal Medicine *(Expires- 12/31/2018; Number: 289087)*
11/2013	*American Board of Internal Medicine* Cardiovascular Medicine (*Expires- 12/31/2023; Number: 289087)*
Board Eligible 2013	*American Board of Internal Medicine* Clinical Cardiac Electrophysiology

Awards

2008	**Outstanding Outpatient Care Resident Award** SUNY Upstate Medical University & VA Medical Center *Syracuse, NY*
2007	**Outstanding Outpatient Care Resident Award** SUNY Upstate Medical University *Syracuse, NY*

2006	**Excellence in Student Teaching Award** SUNY Upstate Medical University *Syracuse, NY*
2002	**Academic Excellence Award** Mysore Obstetrics and Gynecological Society *Karnataka, India*
1998	**Distinguished Honor Role in State level Medical Preclinical Sciences : Ranked 9th** Rajiv Gandhi University of Health Sciences *Karnataka, India*
1996	**Distinguished Honor Role in State level Pre-university Science course : Ranked 3rd** Government of Karnataka *Karnataka, India*

Memberships

American Heart Association
American College of Cardiology
Heart Rhythm Society

Research

Clinical

2011-2013	**University of Louisville** "Study of cardiac resynchronization therapy defibrillators (CRT-D) vs implantable cardioverter defibrillators(ICD) in patients with left ventricular assist device" Mentor: Rakesh Gopinathannair, MD,MA
2007 -2009	**SUNY Upstate Medical University** "Vascular function and resting hemodynamic changes after aerobic exercise training in women with pre stage 1 essential hypertension" Mentor: Scott Collier, PhD
2007-2008	**SUNY Upstate Medical University** "Elevated troponin with angiographically normal coronary arteries in a tertiary care center: A retrospective review" Mentor: Hani Kozman, M.D
2006-2007	**SUNY Upstate Medical University** "Hemodynamic and hormonal changes following 4 weeks of exercise training in obese , pre –stage 1 essential hypertension" Mentor: Scott Collier, PhD

Publications

Scientific Papers (Peer-Reviewed Journals)

1. **Hottigoudar RU**, Deam AG, Slaughter MS, Sutton BS, McCants K, Birks EJ, and Gopinathannair R.
   " Ventricular Tachycardia Ablation in Patients with Left Ventricular Assist Devices: Rhythm Still Matters in the Bionic Age"
   Innovations in Cardiac Rhythm Management, 2011 Nov; 2(11):537-547

2. **Hottigoudar RU**, Gopinathannair R.
   "Inappropriate' sinus tachycardia: does the 100 beats per min cut-off matter? "
   Future Cardiology 2013 Mar; 9(2): 273-88 (PMID: 23463978)

3. **Hottigoudar R**,Olshansky B,Gopinathannair R
   "A Tale of Three Tachycardias"
   The Journal of Innovations in Cardiac Rhythm Management, 4(2013): 1062-1068

4. **R.U. Hottigoudar,** A.G. Deam, E.J. Birks, K.C. McCants, M.S. Slaughter, R. Gopinathannair.
   "Catheter Ablation of Atrial Flutter in Patients with Left Ventricular Assist Device Improves Symptoms of Right Ventricular Dysfunction"
   Congestive Heart Failure. 2013 Jul-Aug; 19(4):165-71 (PMID: 23910701)

Manuscripts in progress

1. Rakesh Gopinathannair, Emma J.Birks,Jaimin R.Trivedi, Kelly C McCants,Brad S.Sutton, Allen G.Deam,Mark S.Slaughter, **Rashmi U.Hottigoudar**
   "Impact of Cardiac Resynchronization Therapy on Clinical Outcomes in Patients with Continuous Flow Left ventricular Assist Devices"
   Journal of Cardiac Failure; 2014 December (PMID: 25528199) *In Press*

2. Scott Collier, Kathryn Sandberg, Ann Moody, Vincent Frechette, Chelsea Curry, Hong Ji, **Rashmi Hottigoudar**, Debanik Chaudhuri, Marco Meucci
   "Reduction of Plasma Aldosterone and Arterial Stiffness in Obese, Pre- and Stage-1 Hypertensive Subjects After Aerobic Exercise"
   Journal of Human Hypertension; 2015 January (PMID: 24785976) *In Press*

Abstracts

1. Geraldino L, **Hottigoudar R,** Bonilla E, Neupane H.
   "Renal Thrombotic Microangiopathy and Lupus Nephritis in a Patient with Catastrophic Antiphospholipid Antibody Syndrome"
   NY Chapter ACP Upstate Scientific Meeting. Buffalo, NY: October 2006.

2. Geraldino L, **Hottigoudar R,** Bonilla E, Neupane H.
"Hepatitis C Related Polyarteritis Nodosa"
NY Chapter ACP Upstate Scientific Meeting. Buffalo, NY: October 2006.

3. **Hottigoudar R,** Glidden M, Rose F, Endy T.
"Positive Monospot test preceding the diagnosis of Hemophilus Parainfluenzae endocarditis"
NY Chapter ACP Downstate Scientific Meeting. New York, NY: March 2007.

4. **Hottigoudar R,** Gandhi A , Endy T.
"A man with hydrocephalus secondary to occult Coccidioidomycosis basilar meningitis coexistent with lung cavitation"
NY Chapter ACP Downstate Scientific Meeting. New York, NY: March 2007.

5. **Hottigoudar R,** Villarreal D, Kayalar A, ObonDent M.
Aortic dissection -A clinical entity easily overlooked in the "Rule out myocardial infarction" rubric.
National ACP Scientific Meeting. Sandiego, CA : April 2007.

6. **Hottigoudar R**, Aziz A, Tatum A, Gerlach C, Endy T.
"Occult Acanthamoeba infection"
National ACP Scientific Meeting, Sandiego, CA: April 2007.

7. **R.U. Hottigoudar,** A.G. Deam, E.J. Birks, K.C. McCants, M.S. Slaughter, R. Gopinathannair.
" Catheter Ablation of Atrial Flutter in Patients with HeartMate II Left Ventricular Assist Device Improves Symptoms of Right Ventricular Dysfunction"
International Society of Heart and Lung Transplantation (ISHLT) Meeting
Prague, Czech Republic: April 2012

4. **Rashmi U.Hottigoudar**, Emma J.Birks,Jaimin Trivedi, Brad S.Sutton, A.Gregory Deam,Mark S.Slaughter,Rakesh Gopinathannair
"Cardiac Resynchronization Therapy does not Offer Additive Benefit over ICD in Patients with Continuous Flow Left Ventricular Assist Device"
Heart Rhythm Society 2013-34th Annual Scientific Session
Denver, CO : May 8-11, 2013

Presentations

09 / 2009 **"A case of critical aortic stenosis in an octogenarian"**
Kentucky ACC Chapter Meeting
Louisville, KY

07 / 2008 **"Creating an Academic Culture: Research During residency-Perspective of a resident"**
Grand Rounds, Department of Internal Medicine
SUNY Upstate Medical University
Syracuse, NY

03 / 2008

"Diastolic Heart Failure: No (t) time to relax"
Grand Rounds, Department of Internal Medicine
SUNY Upstate Medical University
Syracuse, NY

06 / 2006

"Identification and Management of osteoporosis in women 50-64 years of age-An algorithmic approach to the primary care physician"
Practice Based Learning/Systems Based Practice
Department of Internal Medicine
SUNY Upstate Medical University
Syracuse, NY

Lectures

12/2012

"Approach to Cardiac Arrhythmias and Syncope"
Department of Medicine, Core curriculum lectures
University of Louisville
Louisville, KY

8/2011

"Cardiac Arrhythmia Emergencies"
Department of Medicine, Core curriculum lectures
University of Louisville
Louisville, KY

11/2010

"Pericardial Diseases"
Department of Medicine, Core curriculum lectures
University of Louisville
Louisville, KY

05 / 2009

"A Case of Hypoglycemia: What's obvious is not so obvious"
CPC Grand Rounds, Department of Internal Medicine
SUNY Upstate Medical University
Syracuse, NY

01 / 2009

" Errors in Internal Medicine"
Morbidity and Mortality Conference
Veterans Affairs Medical Center
Syracuse, NY

12 / 2008

"Voice of the Heart"
CPC Grand Rounds, Department of Internal Medicine
SUNY Upstate Medical University
Syracuse, NY

Attachment B-Economic Feasibility-A.1

Filing Fee Check Copy

THIS CHECK IS VOID IF BLUE BACKGROUND IS ABSENT

VOID AFTER 90 DAYS

METRO KNOXVILLE HMA - ME
900 E. OAK HILL AVE
KNOXVILLE, TN 37917

WELLS FARGO BANK, NA NAPLES, FL

0206196

64-975/612

PAY *FIFTEEN THOUSAND & 00/100*

DATE	AMOUNT
12/29/2017	$****15,000.00

TO THE ORDER OF
HEALTH SERVICES AND DEV AGENCY
ANDREW JACKSON BUILDING
502 DEADERICK ST, 9TH FL
NASHVILLE, TN 37243-0000

James W. Douglas
Brent J. Hammons

⑈0206196⑈ ⑆061209756⑆ 20799005908 72⑈

Attachment B-Economic Feasibility-A.3

Equipment Quote

CORE® PURCHASE AGREEMENT

12/22/2017

Mr. Matthew Littlejohn
North Knoxville Medical Center
7565 Dannaher DR.
Powell, TN 37849

Dear Matthew:

Thank you for your interest in Volcano Corporation ("VOLCANO") and the Volcano CORE® Precision Guided Therapy System. VOLCANO's CORE® is the combination of diverse and individual diagnostic elements into an even more powerful imaging and measuring tool. Enclosed is an agreement for North Knoxville Medical Center to create *one* (1) CORE™ integrated state-of-the-art cardiac catheterization lab(s).

Should you have any questions at all, please do not hesitate to contact me at (615) 969-2338. We at VOLCANO look forward to a long and mutually beneficial relationship.

Best regards,

Bruce Williams
Territory Manager

Purchase Agreement
CORE® Precision Guided Therapy System

This Purchase Agreement ("**Agreement**") is subject to the Agreement Number HPG-7415 by and between **Volcano Corporation**, a Delaware corporation having its principal place of business at located at 3721 Valley Centre Drive Suite 500, San Diego, CA 92130 ("**Supplier**"), and **HealthTrust Purchasing Group, L.P.**, a Delaware limited partnership, having its principal place of business at 155 Franklin Road, Suite 400, Brentwood, Tennessee 37027 (hereinafter referred to as "**HPG**" or "**HealthTrust**"), (each a "**party**" to and collectively "**parties**" to this Agreement), for the benefit of **North Knoxville Medical Center** ("a Participant").

Quotation Date: 12/22/2017

Payment terms are Net 30. CORE™ Unit(s) will be shipped FOB Destination, freight pre-paid and added to invoice.

Qty	Catalog Number	Product	List Price Each	Extended Price Each
1	CORE	**CORE® Precision Guided Therapy System** *CORE® Integrated Precision Guided Therapy System with Phased Array IVUS and FFR; Medical Grade Printer, Rotational IVUS upon request. Includes software support for useful life.*	$216,275.00	$99,775.00
1		**End User License Agreement** *Use and maintenance of Software within Product is subject to the terms and provisions of the License Grant in the Purchase Agreement. The terms of the License Grant are incorporated herein by reference.*	Included	Included
1	435-0100.30	**iFR® Modality Feature** *iFR Hyperemia-Free Lesion Assessment Modalit,CORE Interface, Operator's Manual.*	Included	Included
1	REV04	**CORE® Revolution** *Includes SpinVision PIMr and PIM Cable*	Included	Included
1	FFR04	**CORE® FFR** *Includes PIMffr and PIMffr Cable*	Included	Included
1	PRN01	**CORE® Printer**	Included	Included
1	CORE Control Pad	**CORE® Control Pad** *Bedside touchscreen controller*	$16,500.00	$7,650.00
1		**Installation Cost**	Included	Included
1		**One (1) Year Warranty**	Included	Included
			Total Amount Due:	**$107,425.00**

Full Service Agreement

Full Service Price for CORE® Unit/Per Year	**$9,800.00**
Total Amount Due with 1 Year(s) Extended Service:	**$117,225.00**

The pricing outlined in this Agreement is based on the anticipated needs of Customer. Additional components, accessories or installation costs may be required.

Except as specifically outlined in this agreement, VOLCANO makes no commitment, promise or legal obligation to deliver any future product, service, or enhancements to existing products, features, and/or functionality. Any and all of the aforementioned may only be provided under terms to be agreed upon in writing when and if such products become commercially available.

The pricing, terms and conditions offered herein is confidential and proprietary and is subject to the Master Contract with Volcano Corporation and HealthTrust Purchasing Group, L.P. Each Party shall use the same degree of care to protect the confidentiality of the disclosed information as that Party uses to protect the confidentiality of its own information, but not less than reasonable care. All Confidential Information shall remain the property of the Disclosing Party.

ACCEPTED BY:

NORTH KNOXVILLE MEDICAL CENTER

7565 Dannahar Drive
Powell, TN 37849

Phone (865) 218-7011
Fax

Authorized Agent Name *(please print)*

Signature

Title

Date

ACCEPTED BY:

VOLCANO CORPORATION

2870 Kilgore Road
Rancho Cordova, CA 95670

Phone (800) 228-4728
Fax (916) 638-8812

Authorized Agent Name *(please print)*

Signature

Title

Date

Please send a purchase order and this signed Agreement to VOLCANO Customer Service.
Fax (916) 638-8812 or email cs@volcanocorp.com. Pricing and terms are subject to management approval.

CHS
HPG
1
Prospect

Attachment B-Economic Feasibility-B

Project Funding Letters

CHS

January 4, 2018

Ms. Melanie Hill
Executive Director
Tennessee Health Services and Development Agency
500 Deaderick Street, 9th Floor
Nashville, TN 37243

Re: Funding Support for Metro Knoxville HMA, LLC (d/b/a North Knoxville Medical Center)

Dear Ms. Hill:

CHS/Community Health Systems, Inc., the parent of Metro Knoxville HMA, LLC (d/b/a North Knoxville Medical Center), has internal funds available for the commitment to the following project, which has an approximate project cost of $227,225.

CHS/Community Health Systems, Inc. had cash flow from operating activities of $1.137 billion in its fiscal year ending December 31, 2016. Moreover, as of September 30, 2017, the availability to CHS/Community Health Systems, Inc. for additional borrowings under our Credit Facility, as $929 million pursuant to the $929 million Revolving Credit Facility, after taking into account the $0 million outstanding at that date, of which $63 million was set aside for outstanding letters of credit.

We believe that these funds, along with internally generated cash and continued access to the capital markets, will be sufficient to finance the commitment to the above specified project. CHS/Community Health Systems, Inc. will advance funds as necessary to complete this project.

Should you need anything further, I can be reached at 615-465-7015.

Regards,

Edward W. Lomicka
Vice President and Treasurer

COMMUNITY
HEALTH
SYSTEMS

4000 Meridian Boulevard
Franklin, TN 37067
Tel: (615) 465-7000

P.O. Box 689020
Franklin, TN 37068-9020

Tennova™ Healthcare

January 10, 2018

Ms. Melanie M. Hill
Executive Director
Health Services and Development Agency
Andrew Jackson Building
502 Deaderick Street, 9th Floor
Nashville, Tennessee 37243

RE: Expansion of Diagnostic Cardiac Cath Services to Include Therapeutic Cath Services

Dear Ms. Hill,

As the Chief Financial Officer of Tennova Healthcare – North Knoxville Medical Center, I am writing this letter to confirm that we have sufficient cash reserves available to fully fund the $227,225 project cost associated with our hospital's application to expand its existing cardiac catheterization services to include therapeutic (interventional) cardiac catheterization. The project cost amount is based on the equipment cost, legal and administrative costs, and a contingency amount. There is no facility renovation or construction needed for implementation of therapeutic cath services, as the services will be provided in the hospital's existing cardiac catheterization/vascular lab.

Tennova Healthcare – North Knoxville Medical Center is part of Community Health Systems ("CHS"), one of the nation's leading hospital providers with 127 hospitals in 20 states across the nation. Audited Financial Statements for CHS, the ultimate parent organization of the applicant, are included in this application.

Sincerely,

Rhonda Maynard
Chief Financial Officer

Attachment B-Economic Feasibility-F1

CHS Audited Financial Information

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

☑ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the year ended December 31, 2016
OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from to

Commission file number 001-15925

COMMUNITY HEALTH SYSTEMS, INC.

(Exact name of registrant as specified in its charter)

Delaware *(State of incorporation)*	**13-3893191** *(IRS Employer Identification No.)*
4000 Meridian Boulevard Franklin, Tennessee *(Address of principal executive offices)*	**37067** *(Zip Code)*

Registrant's telephone number, including area code:
(615) 465-7000

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, $.01 par value	New York Stock Exchange
Stock Purchase Rights	New York Stock Exchange
Contingent Value Rights	The NASDAQ Stock Market LLC

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES ☑ NO ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. YES ☐ NO ☑

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES ☑ NO ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☑ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of the Form 10-K or any amendment to the Form 10-K. ☑

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☑ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐
(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). YES ☐ NO ☑

The aggregate market value of the voting stock held by non-affiliates of the Registrant was $1,321,763,644. Market value is determined by reference to the closing price on June 30, 2016 of the Registrant's Common Stock as reported by the New York Stock Exchange. The Registrant does not (and did not at June 30, 2016) have any non-voting common stock outstanding. As of February 15, 2017, there were 113,849,339 shares of common stock, par value $.01 per share, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Certain information required for Part III of this annual report is incorporated by reference to portions of the Registrant's definitive proxy statement for its 2017 annual meeting of stockholders to be filed with the Securities and Exchange Commission within 120 days after the end of the Registrant's fiscal year ended December 31, 2016.

TABLE OF CONTENTS
COMMUNITY HEALTH SYSTEMS, INC.
Year ended December 31, 2016

Item 8. ***Financial Statements and Supplementary Data***

Index to Financial Statements

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To The Board of Directors and Stockholders of
Community Health Systems, Inc.
Franklin, Tennessee

We have audited the accompanying consolidated balance sheets of Community Health Systems, Inc. and subsidiaries (the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of (loss) income, comprehensive (loss) income, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2016. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of Community Health Systems, Inc. and subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company's internal control over financial reporting as of December 31, 2016, based on the criteria established in Internal Control Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 21, 2017 expressed an unqualified opinion on the Company's internal control over financial reporting.

/s/ Deloitte & Touche LLP

Nashville, Tennessee
February 21, 2017

COMMUNITY HEALTH SYSTEMS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF (LOSS) INCOME

	Year Ended December 31,		
	2016	**2015**	**2014**
	(In millions, except share and per share data)		
Operating revenues (net of contractual allowances and discounts)	$ 21,275	$ 22,564	$ 21,561
Provision for bad debts	2,837	3,127	2,922
Net operating revenues	18,438	19,437	18,639
Operating costs and expenses:			
Salaries and benefits	8,624	8,991	8,618
Supplies	3,011	3,048	2,862
Other operating expenses	4,248	4,520	4,322
Government and other legal settlements and related costs	16	4	101
Electronic health records incentive reimbursement	(70)	(160)	(259)
Rent	450	457	434
Depreciation and amortization	1,100	1,172	1,106
Amortization of software to be abandoned	-	-	75
Impairment and (gain) loss on sale of businesses, net	1,919	68	41
Total operating costs and expenses	19,298	18,100	17,300
(Loss) income from operations	(860)	1,337	1,339
Interest expense, net of interest income of $14, $15 and $5 in 2016, 2015 and 2014, respectively	962	973	972
Loss from early extinguishment of debt	30	16	73
Gain on sale of investments in unconsolidated affiliates	(94)	-	-
Equity in earnings of unconsolidated affiliates	(43)	(63)	(48)
(Loss) income from continuing operations before income taxes	(1,715)	411	342
(Benefit from) provision for income taxes	(104)	116	82
(Loss) income from continuing operations	(1,611)	295	260
Discontinued operations, net of taxes:			
Loss from operations of entities sold or held for sale	(7)	(27)	(7)
Impairment of hospitals sold or held for sale	(8)	(5)	(50)
Loss on sale, net	-	(4)	-
Loss from discontinued operations, net of taxes	(15)	(36)	(57)
Net (loss) income	(1,626)	259	203
Less: Net income attributable to noncontrolling interests	95	101	111
Net (loss) income attributable to Community Health Systems, Inc. stockholders	$ (1,721)	$ 158	$ 92
Basic (loss) earnings per share attributable to Community Health Systems, Inc. common stockholders (1):			
Continuing operations	$ (15.41)	$ 1.69	$ 1.33
Discontinued operations	(0.13)	(0.31)	(0.51)
Net (loss) income	$ (15.54)	$ 1.38	$ 0.82
Diluted (loss) earnings per share attributable to Community Health Systems, Inc. common stockholders (1):			
Continuing operations	$ (15.41)	$ 1.68	$ 1.32
Discontinued operations	(0.13)	(0.31)	(0.51)
Net (loss) income	$ (15.54)	$ 1.37	$ 0.82
Weighted-average number of shares outstanding:			
Basic	110,730,971	114,454,674	111,579,088
Diluted	110,730,971	115,272,404	112,549,320

(1) Total per share amounts may not add due to rounding.

See notes to the consolidated financial statements.

COMMUNITY HEALTH SYSTEMS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE (LOSS) INCOME

	Year Ended December 31,		
	2016	2015	2014
		(In millions)	
Net (loss) income	$ (1,626)	$ 259	$ 203
Other comprehensive income (loss), net of income taxes:			
Net change in fair value of interest rate swaps, net of tax benefit of $10, $(3) and $7 for the years ended December 31, 2016, 2015 and 2014, respectively	17	(6)	13
Net change in fair value of available-for-sale securities, net of tax	(11)	(5)	-
Amortization and recognition of unrecognized pension cost components, net of tax (benefit) of $2, $1 and $(9) for the years ended December 31, 2016, 2015 and 2014, respectively	3	1	(9)
Other comprehensive income (loss)	9	(10)	4
Comprehensive (loss) income	(1,617)	249	207
Less: Comprehensive income attributable to noncontrolling interests	95	101	111
Comprehensive (loss) income attributable to Community Health Systems, Inc. stockholders	$ (1,712)	$ 148	$ 96

See notes to the consolidated financial statements.

COMMUNITY HEALTH SYSTEMS, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

	December 31, 2016	December 31, 2015
	(In millions, except share data)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 238	$ 184
Patient accounts receivable, net of allowance for doubtful accounts of $3,773 and $4,110 at December 31, 2016 and 2015, respectively	3,176	3,611
Supplies	480	580
Prepaid income taxes	17	27
Prepaid expenses and taxes	187	197
Other current assets (including assets of hospitals held for sale of $117 and $17 at December 31, 2016 and 2015, respectively)	568	567
Total current assets	4,666	5,166
Property and equipment		
Land and improvements	782	969
Buildings and improvements	7,438	9,051
Equipment and fixtures	4,202	4,886
Property and equipment, gross	12,422	14,906
Less accumulated depreciation and amortization	(4,273)	(4,794)
Property and equipment, net	8,149	10,112
Goodwill	6,521	8,965
Other assets, net of accumulated amortization of $929 and $903 at December 31, 2016 and 2015, respectively (including assets of hospitals held for sale of $878 and $41 at December 31, 2016 and 2015, respectively)	2,608	2,352
Total assets	$ 21,944	$ 26,595
LIABILITIES AND EQUITY		
Current liabilities:		
Current maturities of long-term debt	$ 455	$ 229
Accounts payable	995	1,258
Accrued liabilities:		
Employee compensation	731	823
Interest	207	227
Other (including liabilities of hospitals held for sale of $81 and $6 at December 31, 2016 and 2015, respectively)	499	535
Total current liabilities	2,887	3,072
Long-term debt	14,789	16,556
Deferred income taxes	411	593
Other long-term liabilities	1,575	1,698
Total liabilities	19,662	21,919
Redeemable noncontrolling interests in equity of consolidated subsidiaries	554	571
Commitments and contingencies (Note 17)		
EQUITY		
Community Health Systems, Inc. stockholders' equity:		
Preferred stock, $.01 par value per share, 100,000,000 shares authorized; none issued	-	-
Common stock, $.01 par value per share, 300,000,000 shares authorized; 113,876,580 shares issued and outstanding at December 31, 2016, and 113,732,933 shares issued and 112,757,384 shares outstanding at December 31, 2015	1	1
Additional paid-in capital	1,975	1,963
Treasury stock, at cost, no shares at December 31, 2016 and 975,549 shares at December 31, 2015	-	(7)
Accumulated other comprehensive loss	(62)	(73)
(Accumulated deficit) retained earnings	(299)	2,135
Total Community Health Systems, Inc. stockholders' equity	1,615	4,019
Noncontrolling interests in equity of consolidated subsidiaries	113	86
Total equity	1,728	4,105
Total liabilities and equity	$ 21,944	$ 26,595

See notes to the consolidated financial statements.

COMMUNITY HEALTH SYSTEMS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Redeemable Noncontrolling Interests	Community Health Systems, Inc. Stockholders							Noncontrolling Interests	Total Stockholders' Equity
		Common Stock		Additional Paid-in Capital	Treasury Stock		Accumulated Other Comprehensive Income (Loss)	Retained Earnings (Accumulated Deficit)		
		Shares	Amount		Shares	Amount				
					(In millions, except share data)					
Balance, December 31, 2013	358	95,987,032	1	1,256	(975,549)	(7)	(67)	1,885	64	3,132
Comprehensive income	86	-	-	-	-	-	4	92	25	121
Distributions to noncontrolling interests, net of contributions	(78)	-	-	-	-	-	-	-	(26)	(26)
Purchase of subsidiary shares from noncontrolling interests	(156)	-	-	(2)	-	-	-	-	-	(2)
Other reclassifications of noncontrolling interests	11	-	-	-	-	-	-	-	(11)	(11)
Noncontrolling interests in acquired entity	316	-	-	-	-	-	-	-	28	28
Adjustment to redemption value of redeemable noncontrolling interests	(6)	-	-	6	-	-	-	-	-	6
Repurchases of common stock	-	(175,000)	-	(9)	-	-	-	-	-	(9)
Issuance of common stock in connection with the exercise of stock options	-	1,767,806	-	65	-	-	-	-	-	65
Issuance of shares in exchange for HMA common stock	-	18,364,420	-	736	-	-	-	-	-	736
Cancellation of restricted stock for tax withholdings on vested shares	-	(270,997)	-	(11)	-	-	-	-	-	(11)
Stock-based compensation	-	2,027,826	-	54	-	-	-	-	-	54
Balance, December 31, 2014	531	117,701,087	1	2,095	(975,549)	(7)	(63)	1,977	80	4,083
Comprehensive income	74	-	-	-	-	-	(10)	158	27	175
Contributions from noncontrolling interests	47	-	-	-	-	-	-	-	-	-
Distributions to noncontrolling interests	(70)	-	-	-	-	-	-	-	(30)	(30)
Purchase of subsidiary shares from noncontrolling interests	(25)	-	-	(16)	-	-	-	-	5	(11)
Disposition of less-than-wholly owned hospital	(8)	-	-	-	-	-	-	-	(2)	(2)
Other reclassifications of noncontrolling interests	(1)	-	-	-	-	-	-	-	1	1
Noncontrolling interests in acquired entity	2	-	-	-	-	-	-	-	5	5
Adjustment to redemption value of redeemable noncontrolling interests	21	-	-	(21)	-	-	-	-	-	(21)
Repurchases of common stock	-	(5,532,188)	-	(159)	-	-	-	-	-	(159)
Issuance of common stock in connection with the exercise of stock options	-	712,235	-	25	-	-	-	-	-	25
Issuance of shares in exchange for HMA common stock	-	(56)	-	-	-	-	-	-	-	-
Cancellation of restricted stock for tax withholdings on vested shares	-	(417,019)	-	(20)	-	-	-	-	-	(20)
Stock-based compensation	-	1,268,874	-	59	-	-	-	-	-	59
Balance, December 31, 2015	571	113,732,933	1	1,963	(975,549)	(7)	(73)	2,135	86	4,105
Comprehensive income	71	-	-	-	-	-	9	(1,721)	24	(1,688)
Distributions to noncontrolling interests, net of contributions	(69)	-	-	-	-	-	-	-	(23)	(23)
Purchase of subsidiary shares from noncontrolling interests	(14)	-	-	(9)	-	-	-	-	4	(5)
Disposition of less-than-wholly owned hospital	(3)	-	-	-	-	-	-	-	-	-
Noncontrolling interests in acquired entity	-	-	-	-	-	-	-	-	33	33
Adjustment to redemption value of redeemable noncontrolling interests	6	-	-	(6)	-	-	-	-	-	(6)
Distribution of Quorum Health Corporation	(8)	-	-	-	-	-	2	(713)	(11)	(722)
Cancellation of treasury stock	-	(975,549)	-	(7)	975,549	7	-	-	-	-
Cancellation of restricted stock for tax withholdings on vested shares	-	(368,945)	-	(6)	-	-	-	-	-	(6)
Income tax payable increase from vesting of restricted shares	-	-	-	(6)	-	-	-	-	-	(6)
Stock-based compensation	-	1,488,141	-	46	-	-	-	-	-	46
Balance, December 31, 2016	$ 554	113,876,580	$ 1	$ 1,975	-	$ -	$ (62)	$ (299)	$ 113	$ 1,728

See notes to the consolidated financial statements.

COMMUNITY HEALTH SYSTEMS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
	2016	2015	2014
		(In millions)	
Cash flows from operating activities:			
Net (loss) income	$ (1,626)	$ 259	$ 203
Adjustments to reconcile net (loss) income to net cash provided by operating activities:			
Depreciation and amortization	1,100	1,174	1,187
Deferred income taxes	(116)	103	107
Government and other legal settlements and related costs	16	4	101
Stock-based compensation expense	46	59	54
Loss on sale, net	-	4	-
Impairment of hospitals sold or held for sale	8	5	50
Impairment and (gain) loss on sale of businesses, net	1,919	68	41
Loss from early extinguishment of debt	30	16	73
Gain on sale of investments in unconsolidated affiliates	(94)	-	-
Other non-cash expenses, net	31	47	13
Changes in operating assets and liabilities, net of effects of acquisitions and divestitures:			
Patient accounts receivable	(96)	(219)	(306)
Supplies, prepaid expenses and other current assets	25	(68)	28
Accounts payable, accrued liabilities and income taxes	(137)	(478)	147
Other	31	(53)	(83)
Net cash provided by operating activities	1,137	921	1,615
Cash flows from investing activities:			
Acquisitions of facilities and other related equipment	(123)	(57)	(3,091)
Purchases of property and equipment	(744)	(953)	(853)
Proceeds from disposition of hospitals and other ancillary operations	143	155	88
Proceeds from sale of property and equipment	15	15	50
Purchases of available-for-sale securities	(505)	(162)	(263)
Proceeds from sales of available-for-sale securities	464	156	229
Proceeds from sale of investments in unconsolidated affiliates	403	-	-
Distribution from Quorum Health Corporation	1,219	-	-
Increase in other investments	(242)	(205)	(511)
Net cash provided by (used in) investing activities	630	(1,051)	(4,351)
Cash flows from financing activities:			
Proceeds from exercise of stock options	-	25	65
Repurchase of restricted stock shares for payroll tax withholding requirements	(6)	(20)	(11)
Stock buy-back	-	(159)	(9)
Deferred financing costs and other debt-related costs	(26)	(30)	(276)
Proceeds from noncontrolling investors in joint ventures	-	47	10
Redemption of noncontrolling investments in joint ventures	(19)	(36)	(158)
Distributions to noncontrolling investors in joint ventures	(92)	(100)	(104)
Proceeds from sale-lease back	159	-	-
Borrowings under credit agreements	4,879	4,922	9,131
Issuance of long-term debt	-	-	4,000
Proceeds from receivables facility	107	206	204
Repayments of long-term indebtedness	(6,715)	(5,050)	(9,980)
Net cash (used in) provided by financing activities	(1,713)	(195)	2,872
Net change in cash and cash equivalents	54	(325)	136
Cash and cash equivalents at beginning of period	184	509	373
Cash and cash equivalents at end of period	$ 238	$ 184	$ 509
Supplemental disclosure of cash flow information:			
Interest payments	$ (930)	$ (925)	$ (831)
Income tax refunds (payments), net	$ 16	$ (12)	$ 180

See notes to the consolidated financial statements.

COMMUNITY HEALTH SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. BASIS OF PRESENTATION AND SIGNIFICANT ACCOUNTING POLICIES

Business. Community Health Systems, Inc. is a holding company and operates no business in its own name. On a consolidated basis, Community Health Systems, Inc. and its subsidiaries (collectively the "Company") own, lease and operate general acute care hospitals in communities across the country. As of December 31, 2016, the Company owned or leased 155 hospitals, included in continuing operations, including three stand-alone rehabilitation or psychiatric hospitals, licensed for 26,222 beds in 21 states. Throughout these notes to the consolidated financial statements, Community Health Systems, Inc. (the "Parent") and its consolidated subsidiaries are referred to on a collective basis as the "Company." This drafting style is not meant to indicate that the publicly-traded Parent or any particular subsidiary of the Parent owns or operates any asset, business, or property. The hospitals, operations and businesses described in this filing are owned and operated, and management services provided, by distinct and indirect subsidiaries of Community Health Systems, Inc. The results of Health Management Associates, Inc. ("HMA") are included from January 27, 2014, the date of the HMA merger.

As of December 31, 2016, Florida, Texas, Pennsylvania and Indiana represent the only areas of significant geographic concentration. Operating revenues, net of contractual allowances and discounts (but before the provision for bad debts), generated by the Company's hospitals in Florida, as a percentage of consolidated operating revenues, were 14.1% in 2016, 13.6% in 2015 and 13.0% in 2014. Operating revenues, net of contractual allowances and discounts (but before the provision for bad debts), generated by the Company's hospitals in Texas, as a percentage of consolidated operating revenues, were 11.4% in 2016, 11.1% in 2015 and 10.9% in 2014. Operating revenues, net of contractual allowances and discounts (but before the provision for bad debts), generated by the Company's hospitals in Pennsylvania, as a percentage of consolidated operating revenues, were 11.2% in 2016, 10.6% in 2015 and 11.1% in 2014. Operating revenues, net of contractual allowances and discounts (but before the provision for bad debts), generated by the Company's hospitals in Indiana, as a percentage of consolidated operating revenues, were 8.6% in 2016, 7.3% in 2015 and 7.6% in 2014.

Use of Estimates. The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP") requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates under different assumptions or conditions.

Principles of Consolidation. The consolidated financial statements include the accounts of the Parent, its subsidiaries, all of which are controlled by the Parent through majority voting control, and variable interest entities for which the Company is the primary beneficiary. All intercompany accounts, profits and transactions have been eliminated. Noncontrolling interests in less-than-wholly-owned consolidated subsidiaries of the Parent are presented as a component of total equity to distinguish between the interests of the Parent and the interests of the noncontrolling owners. Revenues, expenses and income from continuing operations from these subsidiaries are included in the consolidated amounts as presented on the consolidated statements of (loss) income, along with a net income measure that separately presents the amounts attributable to the controlling interests and the amounts attributable to the noncontrolling interests for each of the periods presented. Noncontrolling interests that are redeemable or may become redeemable at a fixed or determinable price at the option of the holder or upon the occurrence of an event outside of the control of the Company are presented in mezzanine equity on the consolidated balance sheets.

Cost of Revenue. Substantially all of the Company's operating costs and expenses are "cost of revenue" items. Operating costs that could be classified as general and administrative by the Company would include the

Company's corporate office costs at its Franklin, Tennessee office and Naples, Florida office (which was the headquarters of HMA prior to the closing of the HMA merger), which collectively were $197 million, $266 million and $281 million for the years ended December 31, 2016, 2015 and 2014, respectively. Included in these corporate office costs is stock-based compensation of $46 million, $59 million and $54 million for the years ended December 31, 2016, 2015 and 2014, respectively.

Cash Equivalents. The Company considers highly liquid investments with original maturities of three months or less to be cash equivalents.

Supplies. Supplies, principally medical supplies, are stated at the lower of cost (first-in, first-out basis) or market.

Marketable Securities. The Company's marketable securities are classified as trading or available-for-sale. Available-for-sale securities are carried at fair value as determined by quoted market prices, with unrealized gains and losses reported as a separate component of stockholders' equity. Trading securities are reported at fair value with unrealized gains and losses included in earnings. Other comprehensive (loss) income, net of tax, included an unrealized loss of $11 million and $5 million during the years ended December 31, 2016 and 2015, respectively, and an unrealized gain of less than $1 million during the year ended December 31, 2014, related to these available-for-sale securities.

Property and Equipment. Property and equipment are recorded at cost. Depreciation is recognized using the straight-line method over the estimated useful lives of the land and improvements (3 to 20 years), buildings and improvements (5 to 40 years) and equipment and fixtures (3 to 18 years). Costs capitalized as construction in progress were $227 million and $267 million at December 31, 2016 and 2015, respectively. Expenditures for renovations and other significant improvements are capitalized; however, maintenance and repairs which do not improve or extend the useful lives of the respective assets are charged to operations as incurred. Interest capitalized related to construction in progress was $9 million, $16 million and $10 million for the years ended December 31, 2016, 2015 and 2014, respectively. Purchases of property and equipment and internal-use software accrued in accounts payable and not yet paid were $115 million and $173 million at December 31, 2016 and 2015, respectively.

The Company also leases certain facilities and equipment under capital leases (see Note 10). Such assets are amortized on a straight-line basis over the lesser of the term of the lease or the remaining useful lives of the applicable assets. During the year ended December 31, 2016, the Company had non-cash investing activity of $17 million related to certain facility and equipment additions that were financed through capital leases and other debt.

Goodwill. Goodwill represents the excess of the fair value of the consideration conveyed in the acquisition over the fair value of net assets acquired. Goodwill arising from business combinations is not amortized. Goodwill is required to be evaluated for impairment at the same time every year and when an event occurs or circumstances change such that it is more likely than not that impairment may exist. The Company performs its annual testing of impairment for goodwill in the fourth quarter of each year. As further discussed in Note 5, the Company recorded an impairment charge of $1.395 billion during the year ended December 31, 2016, based on an interim impairment evaluation performed during the second quarter of 2016.

Other Assets. Other assets consist of the insurance recovery receivable from excess insurance carriers related to the Company's self-insured malpractice general liability and workers' compensation insurance liability; costs to recruit physicians to the Company's markets, which are deferred and expensed over the term of the respective physician recruitment contract, generally three years, and included in amortization expense; and capitalized internal-use software costs, which are expensed over the expected useful life, which is generally three years for routine software and eight to ten years for major software projects, and included in amortization expense.

Third-Party Reimbursement. Net patient service revenue is reported at the estimated net realizable amount from patients, third-party payors and others for services rendered. Operating revenues include amounts estimated by management to be reimbursable by Medicare and Medicaid under prospective payment systems, provisions of cost-reimbursement and other payment methods. Approximately 34.4%, 35.3% and 35.5% of operating revenues, net of contractual allowances and discounts (but before the provision for bad debts), for the years ended December 31, 2016, 2015 and 2014, respectively, are related to services rendered to patients covered by the Medicare and Medicaid programs. Revenues from Medicare outlier payments are included in the amounts received from Medicare and were approximately 0.38%, 0.28% and 0.41% of operating revenues, net of contractual allowances and discounts (but before the provision for bad debts), for the years ended December 31, 2016, 2015 and 2014, respectively. In addition, the Company is reimbursed by non-governmental payors using a variety of payment methodologies. Amounts received by the Company for treatment of patients covered by such programs are generally less than the standard billing rates. The differences between the estimated program reimbursement rates and the standard billing rates are accounted for as contractual adjustments, which are deducted from gross revenues to arrive at operating revenues (net of contractual allowances and discounts). These net operating revenues are an estimate of the net realizable amount due from these payors. The process of estimating contractual allowances requires the Company to estimate the amount expected to be received based on payor contract provisions. The key assumption in this process is the estimated contractual reimbursement percentage, which is based on payor classification and historical paid claims data. Due to the complexities involved in these estimates, actual payments the Company receives could be different from the amounts it estimates and records. Final settlements under some of these programs are subject to adjustment based on administrative review and audit by third parties. Adjustments to previous program reimbursement estimates are accounted for as contractual allowance adjustments and reported in the periods that such adjustments become known.

Amounts due to third-party payors were $99 million and $112 million as of December 31, 2016 and 2015, respectively, and are included in accrued liabilities-other in the accompanying consolidated balance sheets. Amounts due from third-party payors were $186 million and $213 million as of December 31, 2016 and 2015, respectively, and are included in other current assets in the accompanying consolidated balance sheets. Substantially all Medicare and Medicaid cost reports are final settled through 2012.

Net Operating Revenues. Net operating revenues are recorded net of provisions for contractual allowance of approximately $98.2 billion, $95.3 billion and $84.4 billion for the years ended December 31, 2016, 2015 and 2014, respectively. Net operating revenues are recognized when services are provided and are reported at the estimated net realizable amount from patients, third-party payors and others for services rendered. Also included in the provision for contractual allowance shown above is the value of administrative and other discounts provided to self-pay patients eliminated from net operating revenues which was $3.2 billion, $3.0 billion and $2.8 billion for the years ended December 31, 2016, 2015 and 2014, respectively.

In the ordinary course of business, the Company renders services to patients who are financially unable to pay for hospital care. The Company's policy is to not pursue collections for such amounts; therefore, the related charges for those patients who are financially unable to pay and that otherwise do not qualify for reimbursement from a governmental program are not reported in net operating revenues or in the provision for bad debts, and are thus classified as charity care. The Company determines amounts that qualify for charity care primarily based on the patient's household income relative to the federal poverty level guidelines, as established by the federal government.

Included in the provision for contractual allowance shown above is $487 million, $453 million and $550 million for the years ended December 31, 2016, 2015 and 2014, respectively, representing the value (at the Company's standard charges) of these charity care services that are excluded from net operating revenues.

The estimated cost incurred by the Company to provide these charity care services to patients who are unable to pay was approximately $64 million, $64 million and $84 million for the years ended December 31, 2016, 2015 and 2014, respectively. The estimated cost of these charity care services was determined using a ratio of cost to gross charges and applying that ratio to the gross charges associated with providing care to charity patients for the period.

Currently, several states utilize supplemental reimbursement programs for the purpose of providing reimbursement to providers to offset a portion of the cost of providing care to Medicaid patients. These programs are designed with input from Centers for Medicare and Medicaid Services and are funded with a combination of state and federal resources, including, in certain instances, fees or taxes levied on the providers. Similar programs are also being considered by other states. After these supplemental programs are signed into law, the Company recognizes revenue and related expenses in the period in which amounts are estimable and collection is reasonably assured. Reimbursement under these programs is reflected in net operating revenues and fees, taxes or other program-related costs are reflected in other operating expenses.

Operating revenues, net of contractual allowances and discounts (but before the provision for bad debts), recognized during the years ended December 31, 2016, 2015 and 2014, were as follows (in millions):

	Year Ended December 31,		
	2016	2015	2014
Medicare	$ 5,089	$ 5,439	$ 5,327
Medicaid	2,234	2,532	2,332
Managed Care and other third-party payors	11,354	11,816	11,109
Self-pay	2,598	2,777	2,793
Total	$ 21,275	$ 22,564	$ 21,561

Allowance for Doubtful Accounts. Accounts receivable are reduced by an allowance for amounts that could become uncollectible in the future. Substantially all of the Company's receivables are related to providing healthcare services to patients at its hospitals and affiliated businesses.

The Company estimates the allowance for doubtful accounts by reserving a percentage of all self-pay accounts receivable without regard to aging category, based on collection history, adjusted for expected recoveries and any anticipated changes in trends. The Company's ability to estimate the allowance for doubtful accounts is not impacted by not utilizing an aging of net accounts receivable as the Company believes that substantially all of the risk exists at the point in time such accounts are identified as self-pay. For all other non-self-pay payor categories, the Company reserves an estimated amount on historical collection rates for the uncontractualized portion of all accounts aging over 365 days from the date of discharge. These amounts represent an immaterial percentage of the outstanding accounts receivable. The percentage used to reserve for all self-pay accounts is based on the Company's collection history. The Company collects substantially all of its third-party insured receivables, which include receivables from governmental agencies.

Collections are impacted by the economic ability of patients to pay and the effectiveness of the Company's collection efforts. Significant changes in payor mix, business office operations, economic conditions or trends in federal and state governmental healthcare coverage could affect the Company's collection of accounts receivable and the estimates of the collectability of future accounts receivable and are considered in the Company's estimates of accounts receivable collectability. The Company also continually reviews its overall reserve adequacy by monitoring historical cash collections as a percentage of trailing net revenue less provision for bad debts, as well as by analyzing current period net revenue and admissions by payor classification, aged accounts

receivable by payor, days revenue outstanding, the composition of self-pay receivables between pure self-pay patients and the patient responsibility portion of third-party insured receivables and the impact of recent acquisitions and dispositions.

During the fourth quarter of 2015, the Company recorded $169 million of additional provision for bad debts and a corresponding increase to the allowance for doubtful accounts. The additional amount was the result of new information obtained since the end of the third quarter of 2015 related to the deterioration in the overall collectability of self-pay accounts receivable. As a result, the Company refined its estimate of the allowance for doubtful accounts and the additional amount was recorded as a change in estimate for the year ended December 31, 2015.

Electronic Health Records Incentive Reimbursement. The federal government has implemented a number of regulations and programs designed to promote the use of electronic health records ("EHR") technology and, pursuant to the Health Information Technology for Economic and Clinical Health Act ("HITECH"), established requirements for a Medicare and Medicaid incentive payments program for eligible hospitals and professionals that adopt and meaningfully use certified EHR technology. The Company utilizes a gain contingency model to recognize EHR incentive payments. Recognition occurs when the eligible hospitals adopt or demonstrate meaningful use of certified EHR technology for the applicable payment period and have available the Medicare cost report information for the relevant full cost report year used to determine the final incentive payment.

Medicaid EHR incentive payments are calculated based on prior period Medicare cost report information available at the time when eligible hospitals adopt, implement, upgrade or demonstrate meaningful use of certified EHR technology. Since the information for the relevant full Medicare cost report year is available at the time of attestation, the incentive income from resolving the gain contingency is recognized when eligible hospitals adopt, implement, upgrade or demonstrate meaningful use of certified EHR technology.

Medicare EHR incentive payments are calculated based on the Medicare cost report information for the full cost report year that began during the federal fiscal year in which meaningful use is demonstrated. Since the necessary information is only available at the end of the relevant full Medicare cost report year and after the cost report is settled, the incentive income from resolving the gain contingency is recognized when eligible hospitals demonstrate meaningful use of certified EHR technology and the information for the applicable full Medicare cost report year to determine the final incentive payment is available.

In some instances, the Company may receive estimated Medicare EHR incentive payments prior to when the Medicare cost report information used to determine the final incentive payment is available. In these instances, recognition of the gain for EHR incentive payments is deferred until all recognition criteria described above are met.

Eligibility for annual Medicare incentive payments is dependent on providers successfully attesting to the meaningful use of EHR technology. Medicaid incentive payments are available to providers in the first payment year that they adopt, implement or upgrade certified EHR technology; however, providers must demonstrate meaningful use of such technology in any subsequent payment years to qualify for additional incentive payments. Medicaid EHR incentive payments are fully funded by the federal government and administered by the states; however, the states are not required to offer EHR incentive payments to providers.

The Company recognized approximately $70 million, $160 million and $259 million for the years ended December 31, 2016, 2015 and 2014, respectively, of incentive reimbursement for HITECH incentives from Medicare and Medicaid related to certain of the Company's hospitals and for certain of the Company's employed physicians that have demonstrated meaningful use of certified EHR technology or have completed attestations to their adoption or implementation of certified EHR technology. These incentive reimbursements are presented as a reduction of operating costs and expenses on the consolidated statements of (loss) income. The Company

received cash related to the incentive reimbursement for HITECH incentives of approximately $123 million, $75 million and $253 million for the years ended December 31, 2016, 2015 and 2014, respectively. The Company recorded no deferred revenue in connection with the receipt of these cash payments at either December 31, 2016 or 2015.

Physician Income Guarantees. The Company enters into physician recruiting agreements under which it supplements physician income to a minimum amount over a period of time, typically one year, while the physicians establish themselves in the community. As part of the agreements, the physicians are committed to practice in the community for a period of time, typically three years, which extends beyond their income guarantee period. The Company records an asset and liability for the estimated fair value of minimum revenue guarantees on new agreements. Adjustments to the ultimate value of the guarantee paid to physicians are recognized in the period that the change in estimate is identified. The Company amortizes an asset over the life of the agreement. As of December 31, 2016 and 2015, the unamortized portion of these physician income guarantees was $37 million and $47 million, respectively.

Concentrations of Credit Risk. The Company grants unsecured credit to its patients, most of whom reside in the service area of the Company's facilities and are insured under third-party payor agreements. Because of the economic diversity of the Company's facilities and non-governmental third-party payors, Medicare represents the only significant concentration of credit risk from payors. Accounts receivable, net of contractual allowances, from Medicare was $402 million and $453 million at December 31, 2016 and 2015, respectively, representing 6% of consolidated net accounts receivable, before allowance for doubtful accounts, for each of the years ended December 31, 2016 and 2015.

Accounting for the Impairment or Disposal of Long-Lived Assets. During the year ended December 31, 2016, the Company recorded a total impairment charge of $326 million to reduce the carrying value of certain hospitals that have been deemed held for sale based on the difference between the carrying value of the hospital disposal groups compared to estimated fair value less costs to sell. Additionally, the Company recorded an impairment charge of approximately $270 million for several underperforming hospitals to their estimated fair value. The impairment charge for the year ended December 31, 2016 also included approximately $19 million recorded on the sale or closure of certain of the Company's hospitals during the year based on the remaining net book value of the assets at the date of disposal. In total, the Company recorded impairment charges of approximately $615 million on its long-lived assets other than the impairment charge taken on the hospital reporting unit goodwill that is further discussed in Note 5. Included in the carrying value of the hospital disposal groups is an allocation of approximately $365 million of goodwill allocated from the hospital reporting unit goodwill based on a calculation of the disposal groups' relative fair value compared to the total reporting unit.

During the year ended December 31, 2015, the Company recorded a pretax impairment charge of approximately $68 million related to the write-off of approximately $6 million of allocated reporting unit goodwill for Payson Regional Medical Center and $62 million for the impairment of certain long-lived assets for several smaller hospitals to their estimated fair value. During the year ended December 31, 2014, the Company recorded a pretax impairment charge of $17 million to reduce the carrying value of certain long-lived assets at three of its smaller hospitals to their estimated fair value. The impairments for 2016, 2015 and 2014 were identified because of declining operating results and projections of future cash flows at these hospitals caused by competitive and operational challenges specific to the markets in which these hospitals operate.

Income Taxes. The Company accounts for income taxes under the asset and liability method, in which deferred income tax assets and liabilities are recognized for the tax consequences of "temporary differences" by applying enacted statutory tax rates applicable to future years to differences between the financial statement carrying amounts and the tax bases of existing assets and liabilities. The effect on deferred taxes of a change in tax rates is recognized in the consolidated statement of (loss) income during the period in which the tax rate change becomes law.

Comprehensive (Loss) Income. Comprehensive (loss) income is the change in equity of a business enterprise during a period from transactions and other events and circumstances from non-owner sources.

Segment Reporting. A public company is required to report annual and interim financial and descriptive information about its reportable operating segments. Operating segments, as defined, are components of an enterprise about which separate financial information is available that is evaluated regularly by the chief operating decision maker in deciding how to allocate resources and in assessing performance. Aggregation of similar operating segments into a single reportable operating segment is permitted if the businesses have similar economic characteristics and meet the criteria established by U.S. GAAP.

The Company operated in two distinct operating segments during 2016, represented by the hospital operations (which includes the Company's acute care hospitals and related healthcare entities that provide inpatient and outpatient healthcare services) and the home care agencies operations (which provide in-home outpatient care). U.S. GAAP requires (1) that financial information be disclosed for operating segments that meet a 10% quantitative threshold of the consolidated totals of net revenue, profit or loss, or total assets; and (2) that the individual reportable segments disclosed contribute at least 75% of total consolidated net revenue. Based on these measures, only the hospital operations segment meets the criteria as a separate reportable segment. Financial information for the home care agencies segment does not meet the quantitative thresholds and is therefore combined with corporate into the all other reportable segment. Additionally, as discussed in Note 3, on December 31, 2016, the Company sold 80% of its ownership interest in the home care segment.

Derivative Instruments and Hedging Activities. The Company records derivative instruments on the consolidated balance sheet as either an asset or liability measured at its fair value. Changes in a derivative's fair value are recorded each period in earnings or other comprehensive income ("OCI"), depending on whether the derivative is designated and is effective as a hedged transaction, and on the type of hedge transaction. Changes in the fair value of derivative instruments recorded to OCI are reclassified to earnings in the period affected by the underlying hedged item. Any portion of the fair value of a derivative instrument determined to be ineffective under the standard is recognized in current earnings.

The Company has entered into several interest rate swap agreements. See Note 8 for further discussion about the swap transactions.

New Accounting Pronouncements. In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2014-09, which outlines a single comprehensive model for recognizing revenue and supersedes most existing revenue recognition guidance, including guidance specific to the healthcare industry. This ASU provides companies the option of applying a full or modified retrospective approach upon adoption. This ASU is effective for fiscal years beginning after December 15, 2017, with early adoption permitted for annual periods beginning after December 15, 2016. The Company expects to adopt this ASU on January 1, 2018 and is currently developing its plan for adoption and the impact on its revenue recognition policies, procedures and control framework and the resulting impact on its consolidated financial position, results of operations and cash flows. An implementation group for this ASU has been established with an implementation plan to transition to the new standard and determine its impact during 2017. Additionally, the Company plans to elect to apply the full retrospective approach upon adoption.

In April 2015, the FASB issued ASU 2015-03, which requires debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct reduction from the carrying amount of that debt liability, consistent with the accounting for debt discounts. The ASU did not change the measurement or recognition guidance for debt issuance costs. This ASU is effective for fiscal years beginning after December 31, 2015. The Company adopted this ASU on January 1, 2016, which resulted in the reclassification of approximately

$266 million of debt issuance costs from other long-term assets to a reduction of the related long-term debt. The adoption of this ASU was applied retroactively to all periods presented, and had no impact on the Company's results of operations or cash flows.

In November 2015, the FASB issued ASU 2015-17, which amended the balance sheet classification requirements for deferred income taxes to simplify their presentation in the statement of financial position. The ASU requires that deferred tax liabilities and assets be classified as noncurrent in a classified statement of financial position. This ASU is effective for fiscal years beginning after December 31, 2016, with early adoption permitted. The Company early adopted the provisions of this ASU for the presentation and classification of its deferred tax assets at December 31, 2015. The effect of this change primarily resulted in the current portion of deferred income taxes at December 31, 2015 being included in the noncurrent deferred income tax liability.

In January 2016, the FASB issued ASU 2016-01, which amends the measurement, presentation and disclosure requirements for equity investments, other than those accounted for under the equity method or that require consolidation of the investee. The ASU eliminates the classification of equity investments as available-for-sale with any changes in fair value of such investments recognized in other comprehensive income, and requires entities to measure equity investments at fair value, with any changes in fair value recognized in net income. This ASU is effective for fiscal years beginning after December 15, 2017, with early adoption permitted. The Company expects to adopt this ASU on January 1, 2018, and is currently evaluating the impact that adoption of this ASU will have on its consolidated financial position and results of operations.

In February 2016, the FASB issued ASU 2016-02, which amends the accounting for leases, requiring lessees to recognize most leases on their balance sheet with a right-of-use asset and a lease liability. Leases will be classified as either finance or operating leases, which will impact the expense recognition of such leases over the lease term. The ASU also modifies the lease classification criteria for lessors and eliminates some of the real estate leasing guidance previously applied for certain leasing transactions. This ASU is effective for fiscal years beginning after December 15, 2018, with early adoption permitted. The Company expects to adopt this ASU on January 1, 2019. Because of the number of leases the Company utilizes to support its operations, the adoption of this ASU is expected to have a significant impact on the Company's consolidated financial position and results of operations. Management is currently evaluating the extent of this anticipated impact on the Company's consolidated financial position and results of operations, and the quantitative and qualitative factors that will impact the Company as part of the adoption of this ASU, as well as any changes to its leasing strategy that may occur because of the changes to the accounting and recognition of leases.

In March 2016, the FASB issued ASU 2016-09, which was issued to simplify some of the accounting guidance for share-based compensation. Among the areas impacted by the amendments in this ASU is the accounting for income taxes related to share-based payments, accounting for forfeitures, classification of awards as equity or liabilities, and classification on the statement of cash flows. This ASU is effective for fiscal years beginning after December 15, 2016, with early adoption permitted. The Company expects to adopt this ASU on January 1, 2017. Management is currently evaluating the impact that the adoption of this ASU will have on its consolidated financial position, results of operations and cash flows. Because of the decline in the Company's stock price within the last year, the principal impact from adopting this ASU will be an increase in the Company's provision for income taxes due to the deficiency in income taxes recorded for book purposes over the vesting of the outstanding share-based awards compared to the actual tax deduction that will be recognized upon vesting.

In January 2017, the FASB issued ASU 2017-04, which simplifies the accounting for goodwill impairment by eliminating step two from the goodwill impairment test. Instead of a two-step impairment model, if the carrying amount of a reporting unit exceeds its fair value as determined in step one of the impairment test, an impairment loss is measured at the amount equal to that excess, limited to the total amount of goodwill allocated to that

reporting unit. This ASU is effective for any interim or annual impairment tests for fiscal years beginning after December 15, 2019, with early adoption permitted. As noted in the Company's critical accounting policy discussion on goodwill, during the fourth quarter of 2016 the Company performed its annual goodwill impairment analysis. While the result of the step two valuation in that analysis did not indicate an impairment of goodwill, the initial calculation of reporting unit fair value in the step one test indicated that the carrying amount of the hospital reporting unit exceeded its fair value by approximately $800 million. Depending on future changes in fair value and the impact of allocated goodwill for planned divestitures, at adoption there could be a material impairment charge recorded for this excess amount. The Company is evaluating whether to early adopt this ASU and what impact it will have on its consolidated financial position and results of operations.

2. ACCOUNTING FOR STOCK-BASED COMPENSATION

Stock-based compensation awards have been granted under the Community Health Systems, Inc. Amended and Restated 2000 Stock Option and Award Plan, amended and restated as of March 20, 2013 (the "2000 Plan"), and the Community Health Systems, Inc. Amended and Restated 2009 Stock Option and Award Plan, which was amended and restated as of March 16, 2016 and approved by the Company's stockholders at the annual meeting of stockholders held on May 17, 2016 (the "2009 Plan").

The 2000 Plan allowed for the grant of incentive stock options intended to qualify under Section 422 of the Internal Revenue Code (the "IRC"), as well as stock options which do not so qualify, stock appreciation rights, restricted stock, restricted stock units, performance-based shares or units and other share awards. Prior to being amended in 2009, the 2000 Plan also allowed for the grant of phantom stock. Persons eligible to receive grants under the 2000 Plan include the Company's directors, officers, employees and consultants. All options granted under the 2000 Plan have been "nonqualified" stock options for tax purposes. Generally, vesting of these granted options occurs in one-third increments on each of the first three anniversaries of the award date. Options granted prior to 2005 have a 10-year contractual term, options granted in 2005 through 2007 have an eight-year contractual term and options granted in 2008 through 2011 have a 10-year contractual term. The Company has not granted stock option awards under the 2000 Plan since 2011. Pursuant to the amendment and restatement of the 2000 Plan dated March 20, 2013, no further grants will be awarded under the 2000 Plan.

The 2009 Plan provides for the grant of incentive stock options intended to qualify under Section 422 of the IRC and for the grant of stock options which do not so qualify, stock appreciation rights, restricted stock, restricted stock units, performance-based shares or units and other share awards. Persons eligible to receive grants under the 2009 Plan include the Company's directors, officers, employees and consultants. To date, all options granted under the 2009 Plan have been "nonqualified" stock options for tax purposes. Generally, vesting of these granted options occurs in one-third increments on each of the first three anniversaries of the award date. Options granted in 2011 or later have a 10-year contractual term. The amendment and restatement of the 2009 Plan, as approved by the Company's stockholders at the 2016 Annual Meeting, increased the number of shares of common stock available for grant under the 2009 Plan by an additional 5,000,000 shares. As of December 31, 2016, 5,960,188 shares of unissued common stock were reserved for future grants under the 2009 Plan.

The exercise price of all options granted under the 2000 Plan and the 2009 Plan has been equal to the fair value of the Company's common stock on the option grant date.

The following table reflects the impact of total compensation expense related to stock-based equity plans on the reported operating results for the respective periods (in millions):

	Year Ended December 31,		
	2016	2015	2014
Effect on (loss) income from continuing operations before income taxes	$ (46)	$ (59)	$ (54)
Effect on net (loss) income	$ (27)	$ (35)	$ (34)

At December 31, 2016, $32 million of unrecognized stock-based compensation expense related to outstanding unvested restricted stock and restricted stock units (the terms of which are summarized below) was expected to be recognized over a weighted-average period of 19 months. There is no expense to be recognized related to stock options. There were no modifications to awards during the years ended December 31, 2016 and 2015, other than those required by the Employee Matters Agreement ("EMA") entered into as part of the spinoff of Quorum Health Corporation ("QHC"), as further discussed below.

Options outstanding and exercisable under the 2000 Plan and the 2009 Plan as of December 31, 2016, and changes during each of the years in the three-year period prior to December 31, 2016, were as follows (in millions, except share and per share data):

	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value as of December 31, 2016
Outstanding at December 31, 2013	3,737,545	$ 34.88		
Granted	-	-		
Exercised	(1,768,473)	37.06		
Forfeited and cancelled	(15,345)	29.92		
Outstanding at December 31, 2014	1,953,727	32.94		
Granted	-	-		
Exercised	(711,568)	35.15		
Forfeited and cancelled	(10,001)	34.96		
Outstanding at December 31, 2015	1,232,158	31.65		
Granted	-	-		
Exercised	-	-		
Forfeited and cancelled	(46,838)	27.44		
Outstanding at December 31, 2016	1,185,320	$ 28.12	3.0 years	$ -
Exercisable at December 31, 2016	1,185,320	$ 28.12	3.0 years	$ -

The weighted-average exercise prices in the table above for periods prior to the April 29, 2016 spin-off of QHC reflect the historical prices at those dates. No stock options were granted during the years ended

December 31, 2016, 2015 and 2014. The aggregate intrinsic value (calculated as the number of in-the-money stock options multiplied by the difference between the Company's closing stock price on the last trading day of the reporting period ($5.59) and the exercise price of the respective stock options) in the table above represents the amount that would have been received by the option holders had all option holders exercised their options on December 31, 2016. This amount changes based on the market value of the Company's common stock. There were no options exercised during the year ended December 31, 2016. The aggregate intrinsic value of options exercised during the years ended December 31, 2015 and 2014 was $9 million and $22 million, respectively. The aggregate intrinsic value of options vested and expected to vest approximates that of the outstanding options.

In accordance with the terms of the EMA, on April 29, 2016, the exercise prices of all stock options outstanding as of that date were modified to reflect the reduction in the Company's stock price that occurred as a result of the distribution of QHC to the Company's stockholders in order to maintain a consistent intrinsic value before and following the QHC distribution. There were no other modifications to the term or number of the outstanding options. The Company evaluated the fair value of the stock options immediately before and after the exercise price modification, and concluded that no incremental stock compensation expense should be recorded.

The Company has also awarded restricted stock under the 2000 Plan and the 2009 Plan to its directors and employees of certain subsidiaries. The restrictions on these shares generally lapse in one-third increments on each of the first three anniversaries of the award date. Certain of the restricted stock awards granted to the Company's senior executives contain a performance objective that must be met in addition to any time-based vesting requirements. If the performance objective is not attained, the awards will be forfeited in their entirety. Once the performance objective has been attained, restrictions will lapse in one-third increments on each of the first three anniversaries of the award date. In addition, 835,000 restricted stock awards granted March 1, 2014 had a performance objective that was measured based on the realization of synergies related to the acquisition of Health Management Associates, Inc. ("HMA") over a two-year period that began on February 1, 2014. The performance objective could be met in part in the first year or in whole or in part over such two-year period. Depending on the degree of attainment of the performance objective, restrictions would lapse on a portion of the award grant over the first three anniversaries of the award date at a level dependent upon the amount of synergies realized. If the synergies related to the HMA merger had not reached a certain level, then the awards would have been forfeited in their entirety. Based on the synergy levels attained in the first annual measurement period ended on January 31, 2015, the performance objective for the first measurement period was met, and one-third of the awards vested on March 1, 2015. Based on the synergy levels attained in the second annual measurement period ended on January 31, 2016, the performance objective for the second measurement period was also met, so the full amount of each award has been earned and one-third of the awards vested on March 1, 2016. The remaining one-third of each award will vest on March 1, 2017. Notwithstanding the above-mentioned performance objectives and vesting requirements, the restrictions with respect to restricted stock granted under the 2000 Plan and the 2009 Plan will lapse earlier in the event of death, disability or termination of employment by the Company for any reason other than for cause of the holder of the restricted stock, or change in control of the Company. Restricted stock awards subject to performance standards that have not yet been satisfied are not considered outstanding for purposes of determining earnings per share until the performance objectives have been satisfied.

On April 29, 2016, the Company cancelled 106,005 restricted stock awards from the March 1, 2016 grant that were held by former employees whose employment with the Company terminated as the result of commencing employment with QHC in connection with the spin-off. This cancellation did not include the issuance of replacement awards by the Company. As a result, the Company recorded approximately $2 million of compensation expense related to the unrecognized stock compensation expense for those awards at the cancellation date. This expense is recorded as part of the costs related to the spin-off of QHC presented in other operating expenses on the accompanying consolidated statement of (loss) income for the year ended December 31, 2016.

Restricted stock outstanding under the 2000 Plan and the 2009 Plan as of December 31, 2016, and changes during each of the years in the three-year period prior to December 31, 2016, were as follows:

	Shares	Weighted-Average Grant Date Fair Value
Unvested at December 31, 2013	1,607,489	$ 35.13
Granted	2,011,000	41.35
Vested	(846,818)	34.60
Forfeited	(11,032)	37.37
Unvested at December 31, 2014	2,760,639	39.82
Granted	1,254,500	47.69
Vested	(1,156,226)	37.61
Forfeited	(13,334)	41.32
Unvested at December 31, 2015	2,845,579	44.18
Granted	1,611,049	14.11
Vested	(1,343,003)	43.39
Forfeited	(144,340)	19.99
Unvested at December 31, 2016	2,969,285	29.39

Restricted stock units ("RSUs") have been granted to the Company's outside directors under the 2000 Plan and the 2009 Plan. On March 1, 2014, each of the Company's outside directors received a grant under the 2009 Plan of 3,614 RSUs. On March 1, 2015, each of the Company's outside directors received a grant under the 2009 Plan of 3,504 RSUs. On March 1, 2016, each of the Company's outside directors received a grant under the 2009 Plan of 11,017 RSUs. Both the 2015 and 2016 grants had a grant date fair value of approximately $170,000. The 2014 grants had a grant date fair value of approximately $150,000. Vesting of these RSUs occurs in one-third increments on each of the first three anniversaries of the award date.

In connection with the spin-off of QHC, holders of outstanding RSUs were credited with a total of 22,021 incremental RSUs at a ratio calculated to maintain a consistent intrinsic value before and following the QHC distribution. There were no other changes to the awards and the incremental RSUs will vest in accordance with the initial vesting period of the corresponding original award.

RSUs outstanding under the 2000 Plan and the 2009 Plan as of December 31, 2016, and changes during each of the years in the three-year period prior to December 31, 2016, were as follows:

	Shares	Weighted-Average Grant Date Fair Value
Unvested at December 31, 2013	55,536	$ 31.33
Granted	21,684	41.51
Vested	(27,858)	30.87
Forfeited	-	-
Unvested at December 31, 2014	49,362	36.07
Granted	21,024	47.70
Vested	(27,708)	31.76
Forfeited	-	-
Unvested at December 31, 2015	42,678	44.59
Granted	99,140	16.90
Vested	(21,432)	43.87
Forfeited	-	-
Unvested at December 31, 2016	120,386	22.06

3. ACQUISITIONS AND DIVESTITURES

Acquisitions

The Company accounts for all transactions that represent business combinations using the acquisition method of accounting, where the identifiable assets acquired, the liabilities assumed and any noncontrolling interest in the acquired entity are recognized and measured at their fair values on the date the Company obtains control in the acquiree. Such fair values that are not finalized for reporting periods following the acquisition date are estimated and recorded as provisional amounts. Adjustments to these provisional amounts during the measurement period (defined as the date through which all information required to identify and measure the consideration transferred, the assets acquired, the liabilities assumed and any noncontrolling interests has been obtained, limited to one year from the acquisition date) are recorded as of the date of acquisition. Goodwill is determined as the excess of the fair value of the consideration conveyed in the acquisition over the fair value of the net assets acquired.

Excluding acquisition and integration expenses related to the 2014 acquisition of HMA, approximately $5 million, $8 million and $13 million of acquisition costs related to prospective and closed acquisitions were expensed during the years ended December 31, 2016, 2015 and 2014, respectively, are included in other operating expenses on the consolidated statements of (loss) income. Approximately $1 million and $69 million of acquisition and related integration expense related to the HMA acquisition were recognized during the years ended December 31, 2015 and 2014, respectively.

On April 1, 2016, one or more subsidiaries of the Company completed the acquisition of an 80% interest in Physicians' Specialty Hospital (20 licensed beds), a Medicare-certified specialty surgical hospital in Fayetteville, Arkansas. The total cash consideration paid for the 80% ownership interest in this joint venture was approximately $12 million, with additional consideration of $2 million assumed in liabilities, for a total consideration of $14 million. The value of the noncontrolling interest at acquisition was $2 million. Based upon the Company's final purchase price allocation relating to this acquisition as of December 31, 2016, approximately $12 million of goodwill has been recorded.

On March 1, 2016, one or more subsidiaries of the Company completed the acquisition of an 80% ownership interest in a joint venture entity with Indiana University Health that includes substantially all of the assets of IU Health La Porte Hospital ("La Porte") in La Porte, Indiana (227 licensed beds) and IU Health Starke Hospital ("Starke") in Knox, Indiana (50 licensed beds), and affiliated outpatient centers and physician practices. The total cash consideration paid for the 80% ownership interest in this joint venture was approximately $96 million with additional consideration of $8 million assumed in liabilities, for a total consideration of $104 million. The value of the noncontrolling interest at acquisition was $25 million. Based upon the Company's final purchase price allocation relating to this acquisition as of December 31, 2016, approximately $45 million of goodwill has been recorded.

Effective November 1, 2014, the Company entered into and closed on a restructuring agreement related to the joint venture between an affiliate of the Company and an affiliate of Novant Health, Inc. ("Novant"), the non-profit joint venture partner. Through this joint venture, Novant owned an indirect noncontrolling interest in Lake Norman Regional Medical Center ("Lake Norman"), one of the former HMA hospitals. The HMA merger triggered a change in control provision in the operating agreement of this joint venture, requiring the Company to purchase the 30% noncontrolling interest in Lake Norman held by Novant for the higher of fair value or $150 million. As part of the restructuring agreement, on November 3, 2014, the Company paid Novant (1) $150 million for its 30% noncontrolling interest in Lake Norman, (2) approximately $4 million to acquire Upstate Carolina Medical Center (125 licensed beds) in Gaffney, South Carolina, and (3) approximately $5 million to settle prior claims with Novant. The amounts paid to Novant to acquire the noncontrolling interest in Lake Norman and to settle prior claims were recognized as part of the opening balance sheet in the purchase accounting for HMA. Based upon the Company's final purchase price allocation relating to this acquisition as of December 31, 2015, no goodwill has been recorded related to the acquisition of Upstate Carolina Medical Center.

On October 1, 2014, one or more subsidiaries of the Company completed the acquisition of Natchez Regional Medical Center (179 licensed beds) in Natchez, Mississippi. The total cash consideration paid at closing for long-lived assets was $10 million. As part of the closing, the Company also paid $8 million as a prepayment for future property taxes that will be applied to the tax liability for the next 17 years. Based upon the Company's final purchase price allocation relating to this acquisition as of December 31, 2015, no goodwill has been recorded.

Effective April 1, 2014, one or more subsidiaries of the Company completed the acquisition of Sharon Regional Health System in Sharon, Pennsylvania. This healthcare system includes Sharon Regional (258 licensed beds) and other outpatient and ancillary services. The total cash consideration paid for long-lived assets and working capital was approximately $67 million and $1 million, respectively, with additional consideration of $9 million assumed in liabilities, for a total consideration of $77 million. Based upon the Company's final purchase price allocation relating to this acquisition as of December 31, 2015, approximately $8 million of goodwill has been recorded.

Effective April 1, 2014, one or more subsidiaries of the Company completed the acquisition of a 95% interest in Munroe Regional Medical Center (421 licensed beds) in Ocala, Florida and its other outpatient and ancillary services through a joint venture arrangement with an affiliate of a regional not-for-profit healthcare system, which acquired the remaining 5% interest. The total cash consideration paid for long-lived assets plus prepaid rent on the leased property and working capital was approximately $192 million and $4 million, respectively, with additional consideration of $11 million assumed in liabilities, for a total consideration of $207 million. The value of the noncontrolling interest at acquisition was $10 million. Based upon the Company's final purchase price allocation relating to this acquisition as of December 31, 2015, approximately $11 million of goodwill has been recorded.

The table below summarizes the allocations of the purchase price (including assumed liabilities) for the above hospital acquisition transactions (excluding HMA) in 2016 and 2014 (in millions) and reflects the fact that there were no hospital acquisitions in 2015:

	2016	2015	2014
Current assets	$ 7	N/A	$ 29
Property and equipment	69	N/A	257
Goodwill	57	N/A	19
Intangible assets	10	N/A	-
Other long-term assets	3	N/A	28
Liabilities	(10)	N/A	(46)
Noncontrolling interests	(28)	N/A	(10)
Total identifiable net assets	$ 108	N/A	$ 277

The operating results of the foregoing transactions have been included in the accompanying consolidated statements of (loss) income from their respective dates of acquisition, including net operating revenues of $214 million for the year ended December 31, 2016, from hospital acquisitions that closed during that year.

HMA Merger

On January 27, 2014, the Company completed the HMA merger by acquiring all the outstanding shares of HMA's common stock for approximately $7.3 billion, including the assumption of approximately $3.8 billion of existing indebtedness, for consideration for each share of HMA's common stock consisting of $10.50 in cash, 0.06942 of a share of the Company's common stock, and one contingent value right ("CVR"). The CVR entitles the holder to receive a cash payment of up to $1.00 per CVR (subject to downward adjustment but not below zero), subject to the final resolution of certain legal matters pertaining to HMA, as defined in the CVR agreement. At the time of the completion of the HMA merger, HMA owned and operated 71 hospitals in 15 states in non-urban communities located primarily in the southeastern United States.

In connection with the HMA merger, the Company and CHS/Community Health Systems, Inc. ("CHS") entered into a third amendment and restatement of its credit facility, providing for additional financing and recapitalization of certain of the Company's term loans. In addition, the Company and CHS also issued in connection with the HMA merger: (i) $1.0 billion aggregate principal amount of 5.125% Senior Secured Notes due 2021 and (ii) $3.0 billion aggregate principal amount of 6.875% Senior Notes due 2022.

The total consideration of the HMA merger has been allocated to the assets acquired and liabilities assumed based upon their respective fair values, resulting in approximately $4.5 billion of goodwill resulting from the final purchase price allocation at December 31, 2014. The purchase price represented a premium over the fair value of the net tangible and identifiable intangible assets acquired for reasons such as:

- the expansion of the number of markets in which the Company operates in existing states;
- the extension and strengthening of the Company's hospital and physician networks;
- the centralization of many support functions; and
- the elimination of duplicate corporate functions.

The table below summarizes the calculation of consideration paid and allocations of the purchase price (including assumed liabilities and long-term debt assumed and repaid at closing) for the HMA merger (in millions):

Cash paid	$	2,778
Shares issued		736
Contingent value right		17
Total consideration	$	3,531
Current assets	$	1,519
Property and equipment		2,895
Goodwill		4,494
Intangible assets		112
Other long-term assets		508
Liabilities		(5,662)
Noncontrolling interests		(335)
Total identifiable net assets	$	3,531

The allocation process requires the analysis of acquired fixed assets, contracts, contractual commitments, and legal contingencies to identify and record the fair value of all assets acquired and liabilities assumed. All goodwill related to HMA is recorded in the hospital operations reporting unit.

Net operating revenues and income from continuing operations before income taxes and allocation of both interest and corporate overhead from hospitals acquired from HMA from the date of acquisition through December 31, 2014 was approximately $5.3 billion and $564 million, respectively.

Other Acquisitions

During the years ended December 31, 2016, 2015 and 2014, one or more subsidiaries of the Company paid approximately $16 million, $51 million and $29 million, respectively, to acquire the operating assets and related businesses of certain physician practices, clinics and other ancillary businesses that operate within the communities served by the Company's affiliated hospitals. In connection with these acquisitions, during the year ended December 31, 2016, the Company allocated approximately $8 million of the consideration paid to property and equipment and net working capital and the remainder, approximately $14 million consisting of intangible assets that do not qualify for separate recognition, to goodwill. The value of the noncontrolling interest recorded in these acquisitions was $6 million. During 2015, the Company allocated approximately $19 million of the consideration paid to property and equipment and net working capital and the remainder, approximately $39 million consisting of intangible assets that do not qualify for separate recognition, to goodwill. The value of noncontrolling interest acquired in these acquisitions was $7 million. During 2014, the Company allocated approximately $15 million of the consideration paid to property and equipment and net working capital and the remainder, approximately $14 million consisting of intangible assets that do not qualify for separate recognition, to goodwill.

Divestitures

In April 2014, FASB issued ASU 2014-08, which changes the requirements for reporting discontinued operations. A discontinued operation is a disposal that represents a strategic shift that has (or will have) a major effect on an entity's operations and financial results. Additional disclosures are required for significant

components of the entity that are disposed of or are held for sale but do not qualify as discontinued operations. This ASU was adopted on January 1, 2015 and is required to be applied on a prospective basis for disposals or components initially classified as held for sale after adoption. As a result, the following divestitures occurring subsequent to the date of adoption are included in continuing operations for the years ended December 31, 2016 and 2015. Additionally, the impact of the hospitals and other assets spun off to QHC are discussed in Note 4 below.

On December 31, 2016, one or more subsidiaries of the Company sold an 80% majority ownership interest in the home care division to a subsidiary of Almost Family, Inc. for $128 million. In connection with the divestiture of a controlling interest in the home care division, the Company recorded a gain of approximately $91 million during the year ended December 31, 2016.

Effective September 3, 2016, one or more subsidiaries of the Company finalized an agreement to terminate the lease and cease operations of Alliance Health Blackwell (53 licensed beds) in Blackwell, Oklahoma, agreeing to terminate the lease with the landlord, The Blackwell Hospital Trust Authority. Income from continuing operations for the year ended December 31, 2016 includes an impairment charge of approximately $3 million related to the write-off of certain intangible assets abandoned as part of exiting the lease to operate this hospital.

Effective February 1, 2016, one or more subsidiaries of the Company sold Lehigh Regional Medical Center (88 licensed beds) in Lehigh Acres, Florida, ("Lehigh") and related outpatient services to Prime Healthcare Services, Inc. ("Prime") for approximately $11 million in cash. In connection with the divestiture of Lehigh, the Company recorded an impairment charge of approximately $4 million related to the allocated hospital reporting unit goodwill in 2016.

Effective January 1, 2016, one or more subsidiaries of the Company sold Bartow Regional Medical Center (72 licensed beds) in Bartow, Florida, ("Bartow") and related outpatient services to BayCare Health Systems, Inc. for approximately $60 million in cash, which was received at a preliminary closing on December 31, 2015. In connection with the divestiture of Bartow, the Company recorded an impairment charge of approximately $5 million related to the allocated hospital reporting unit goodwill in 2016.

Effective July 31, 2015, one or more subsidiaries of the Company sold certain assets used in the operation of Payson Regional Medical Center (44 licensed beds) in Payson, Arizona ("Payson") to Banner Health for approximately $20 million in cash. The Company previously operated Payson under the terms of an operating lease with Mogollon Health Alliance, Inc., an Arizona nonprofit corporation, that expired on July 31, 2015. The lease termination and sale closed effective July 31, 2015.

The financial results included in discontinued operations for divestitures or hospitals held for sale at December 31, 2014, prior to the Company's adoption of ASU 2014-08, are summarized below.

During the three months ended June 30, 2015, one or more subsidiaries of the Company finalized an agreement to terminate the lease and cease operations of Fallbrook Hospital (47 licensed beds) in Fallbrook, California. In agreeing to terminate the lease, the Company received approximately $3 million in cash from the Fallbrook Healthcare District, as the landlord, as consideration for certain operating assets of the hospital.

Effective April 1, 2015, one or more subsidiaries of the Company sold Chesterfield General Hospital (59 licensed beds) in Cheraw, South Carolina and Marlboro Park Hospital (102 licensed beds) in Bennettsville, South Carolina and related outpatient services to M/C Healthcare, LLC for approximately $4 million in cash.

Effective March 1, 2015 one or more subsidiaries of the Company sold Dallas Regional Medical Center (202 licensed beds) in Mesquite, Texas to Prime for approximately $25 million in cash.

Effective March 1, 2015 one or more subsidiaries of the Company sold Riverview Regional Medical Center (281 licensed beds) in Gadsden, Alabama to Prime for approximately $25 million in cash. This hospital was required to be divested by the Federal Trade Commission as a condition of its approval of the HMA merger.

Effective February 1, 2015, one or more subsidiaries of the Company sold Harris Hospital (133 licensed beds) in Newport, Arkansas and related healthcare services to White County Medical Center in Searcy, Arkansas for approximately $5 million in cash.

Effective January 1, 2015, one or more subsidiaries of the Company sold Carolina Pines Regional Medical Center (116 licensed beds) in Hartsville, South Carolina and related outpatient services to Capella Healthcare for approximately $74 million in cash, which was received at the closing on December 31, 2014. This hospital was required to be divested by the Federal Trade Commission as a condition of its approval of the HMA merger.

On November 3, 2014, one or more subsidiaries of the Company sold Special Care Hospital (67 licensed beds) located in Nanticoke, Pennsylvania, which is a long-term acute care hospital, to Post Acute Medical, LLC for approximately $3 million in cash.

During the year ended December 31, 2014, the Company made the decision to sell and began actively marketing several smaller hospitals. In addition, HMA entered into a definitive agreement to sell Williamson Memorial Hospital (76 licensed beds) located in Williamson, West Virginia prior to the HMA merger, and the Company has continued the effort to divest this facility. In connection with management's decision to sell these hospitals and the sale of the seven hospitals (excluding Payson) noted above during 2015, the Company has classified the results of operations of such hospitals as discontinued operations in the accompanying consolidated statements of (loss) income, and classified these hospitals as held for sale in the accompanying consolidated balance sheets.

Net operating revenues and loss from discontinued operations for the respective periods are as follows (in millions):

	Year Ended December 31,		
	2016	2015	2014
Net operating revenues	$ 99	$ 114	$ 426
Loss from operations of entities sold or held for sale before income taxes	(11)	(42)	(11)
Impairment of hospitals sold or held for sale	(12)	(8)	(71)
Loss on sale, net	-	(6)	-
Loss from discontinued operations, before taxes	(23)	(56)	(82)
Income tax benefit	(8)	(20)	(25)
Loss from discontinued operations, net of taxes	$ (15)	$ (36)	$ (57)

Interest expense was allocated to discontinued operations based on sale proceeds available for debt repayment.

Other Hospital Closures

During the three months ended March 31, 2016, the Company announced the planned closure of McNairy Regional Hospital in Selmer, Tennessee. The Company recorded an impairment charge of approximately $7 million during the three months ended March 31, 2016, to adjust the fair value of the supplies inventory and

long-lived assets of this hospital, including property and equipment and capitalized software costs, based on their estimated fair value and future utilization. McNairy Regional Hospital closed on May 19, 2016. No additional impairment was recorded during the year ended December 31, 2016.

4. SPIN-OFF OF QUORUM HEALTH CORPORATION

On April 29, 2016, the Company completed the spin-off of 38 hospitals and Quorum Health Resources, LLC into Quorum Health Corporation, an independent, publicly traded corporation. The transaction was structured to be generally tax free to the Company and its stockholders. The Company distributed, on a pro rata basis, all of the shares of QHC common stock to the Company's stockholders of record as of April 22, 2016. These stockholders of record as of April 22, 2016 received a distribution of one share of QHC common stock for every four shares of Company common stock held as of the record date plus cash in lieu of any fractional shares. In recognition of the spin-off, the Company recorded a non-cash dividend of approximately $713 million during the year ended December 31, 2016, representing the net assets of QHC distributed to the Company's stockholders. Immediately following the completion of the spin-off, the Company's stockholders owned 100% of the outstanding shares of QHC common stock. Following the spin-off, QHC became an independent public company with its common stock listed for trading under the symbol "QHC" on the New York Stock Exchange.

In connection with the spin-off, the Company and QHC entered into a separation and distribution agreement as well as certain ancillary agreements on April 29, 2016. These agreements allocate between the Company and QHC the various assets, employees, liabilities and obligations (including investments, property and employee benefits and tax-related assets and liabilities) that comprise the separate companies and govern certain relationships between, and activities of, the Company and QHC for a period of time after the spin-off.

The results of operations for QHC through the date of the spin-off are presented in continuing operations in the consolidated statements of (loss) income as the Company has determined that the spin-off of QHC does not meet the criteria as discontinued operations under ASU 2014-08.

Financial and statistical data reported in this Annual Report on Form 10-K ("Form 10-K") include QHC operating results through April 29, 2016. Summary financial results of QHC for the periods included in the accompanying consolidated statements of (loss) income are as follows:

	Year Ended December 31,		
	2016	2015	2014
(Loss) income from operations before income taxes	$ (12)	$ 21	$ 14
Less: Income attributable to noncontrolling interests	1	3	-
(Loss) income from operations before income taxes attributable to Community Health Systems, Inc.	$ (13)	$ 18	$ 14

5. GOODWILL AND OTHER INTANGIBLE ASSETS

Goodwill

The changes in the carrying amount of goodwill for the years ended December 31, 2016 and 2015 are as follows (in millions):

	Year Ended December 31,	
	2016	2015
Balance, beginning of year	$ 8,965	$ 8,951
Goodwill acquired as part of acquisitions during current year	71	39
Consideration and purchase price allocation adjustments for prior year's acquisitions and other adjustments	-	11
Goodwill allocated to QHC in the spin-off	(709)	-
Goodwill in the home care operations reporting unit included in the sale of a majority interest in the home care division	(46)	-
Goodwill allocated to hospitals held for sale	(365)	(36)
Impairment of goodwill	(1,395)	-
Balance, end of year	$ 6,521	$ 8,965

Goodwill is allocated to each identified reporting unit, which is defined as an operating segment or one level below the operating segment (referred to as a component of the entity). Management has determined that the Company's operating segments meet the criteria to be classified as reporting units. During the year ended December 31, 2016, the Company allocated approximately $709 million of goodwill to the spin-off of QHC, including approximately $33 million of goodwill related to the former management services reporting unit and approximately $676 million of goodwill allocated from the hospital operations reporting unit based on the relative fair value of the hospitals that were included in the QHC distribution. Additionally, the Company allocated approximately $46 million of goodwill related to the sale of the home care operations reporting unit on December 31, 2016. At December 31, 2016, after giving effect to the disposition of QHC, the sale of an 80% majority ownership interest in the Company's home care division and the $1.395 billion impairment charge discussed below, the Company had approximately $6.5 billion of goodwill recorded, all of which resides at its hospital operations reporting unit.

Goodwill is evaluated for impairment at the same time every year and when an event occurs or circumstances change that, more likely than not, reduce the fair value of the reporting unit below its carrying value. There is a two-step method for determining goodwill impairment. Step one is to compare the fair value of the reporting unit with the unit's carrying amount, including goodwill. If this test indicates the fair value is less than the carrying value, then step two is required to compare the implied fair value of the reporting unit's goodwill utilizing a hypothetical purchase price allocation with the carrying value of the reporting unit's goodwill. The Company performed its last annual goodwill evaluation during the fourth quarter of 2016. No impairment was indicated by this evaluation. The next annual goodwill evaluation will be performed during the fourth quarter of 2017, or sooner if the Company identifies certain indicators of impairment.

While no impairment was indicated by the fourth quarter of 2016 evaluation, the reduction in the Company's fair value and the resulting goodwill impairment charge recorded during 2016 reduced the excess of fair value calculated in the step two analysis over the carrying value of the Company's hospital operations reporting unit to an amount less than 1% of the Company's carrying value. This minimal amount in the excess fair value over carrying value of the hospital operations reporting unit increases the risk that future declines in fair value could result in goodwill impairment. The determination of fair value in step one of the Company's goodwill

impairment analysis is based on an estimate of fair value for each reporting unit utilizing known and estimated inputs at the evaluation date. Some of those inputs include, but are not limited to, the most recent price of the Company's common stock or fair value of long-term debt, estimates of future revenue and expense growth, estimated market multiples expected capital expenditures, income tax rates, and costs of invested capital. Future estimates of fair value could be adversely affected if the actual outcome of one or more of these assumptions changes materially in the future, including further decline in the Company's stock price or fair value of long-term debt, lower than expected hospital volumes, or increased operating costs. Such changes impacting the calculation of fair value could result in a material impairment charge in the future.

The Company estimates the fair value of the related reporting units using both a discounted cash flow model as well as a market multiple model. The cash flow forecasts are adjusted by an appropriate discount rate based on the Company's estimate of a market participant's weighted-average cost of capital. These models are both based on the Company's best estimate of future revenues and operating costs and are reconciled to the Company's consolidated market capitalization, with consideration of the amount a potential acquirer would be required to pay, in the form of a control premium, in order to gain sufficient ownership to set policies, direct operations and control management decisions.

During the three months ended June 30, 2016, the Company identified certain indicators of impairment requiring an interim goodwill impairment evaluation. Those indicators were primarily the decline in the Company's market capitalization and fair value of long-term debt during the three months ended June 30, 2016, as well as a decrease in the estimated future earnings of the Company compared to the Company's most recent annual evaluation. The Company performed an estimated calculation of fair value in step one of the impairment test at June 30, 2016, which indicated that the carrying value of its hospital operations reporting unit exceeded its fair value. An initial step two calculation was performed to determine the implied value of goodwill in a hypothetical purchase price allocation. The Company recorded an estimated non-cash impairment charge of $1.4 billion to goodwill at June 30, 2016 based on these analyses, and adjusted the estimated impairment charge based on the final step two valuation of $1.395 billion at September 30, 2016. The decrease in the goodwill impairment as of September 30, 2016, from the original estimate as of June 30, 2016, was primarily due to lower estimated fair values of the individual hospital property and equipment assets as compared to the assumptions used in the June 30, 2016 estimate, resulting in a higher implied goodwill amount when applied to a hypothetical purchase price allocation as required in the step two analysis. This impairment charge taken during 2016 represents the cumulative amount of impairment recorded historically on the Company's goodwill.

The determination of fair value of the Company's hospital operations reporting unit represents a Level 3 fair value measurement in the fair value hierarchy due to its use of internal projections and unobservable measurement inputs.

These impairment charges do not have an impact on the calculation of the Company's financial covenants under the Company's Credit Facility.

Intangible Assets

Approximately $10 million of intangible assets other than goodwill were acquired during the year ended December 31, 2016, primarily related to the preliminary fair value of the tradename intangible asset associated with the La Porte and Starke acquisitions. The gross carrying amount of the Company's other intangible assets subject to amortization was $41 million and $82 million at December 31, 2016 and December 31, 2015, respectively, and the net carrying amount was $14 million and $31 million at December 31, 2016 and December 31, 2015, respectively. The carrying amount of the Company's other intangible assets not subject to amortization was $86 million and $121 million at December 31, 2016 and December 31, 2015, respectively. Other intangible assets are included in other assets, net on the Company's consolidated balance sheets.

Substantially all of the Company's intangible assets are contract-based intangible assets related to operating licenses, management contracts, or non-compete agreements entered into in connection with prior acquisitions.

The weighted-average remaining amortization period for the intangible assets subject to amortization is approximately six years. There are no expected residual values related to these intangible assets. Amortization expense on these intangible assets was $14 million, $15 million and $13 million during the years ended December 31, 2016, 2015 and 2014, respectively. Amortization expense on intangible assets is estimated to be $4 million in 2017, $3 million in 2018, $1 million in 2019, $1 million in 2020, $1 million in 2021 and $4 million thereafter.

The gross carrying amount of capitalized software for internal use was approximately $1.3 billion and $1.5 billion at December 31, 2016 and December 31, 2015, respectively, and the net carrying amount was approximately $574 million and $771 million at December 31, 2016 and December 31, 2015, respectively. The estimated amortization period for capitalized internal-use software is generally three years, except for capitalized costs related to significant system conversions, which is generally eight to ten years. There is no expected residual value for capitalized internal-use software. At December 31, 2016, there was approximately $33 million of capitalized costs for internal-use software that is currently in the development stage and will begin amortization once the software project is complete and ready for its intended use. Amortization expense on capitalized internal-use software was $201 million, $212 million and $260 million during the years ended December 31, 2016, 2015 and 2014, respectively. Amortization expense on capitalized internal-use software is estimated to be $176 million in 2017, $125 million in 2018, $83 million in 2019, $60 million in 2020, $48 million in 2021 and $82 million thereafter.

In connection with the HMA merger, the Company further analyzed its intangible assets related to internal-use software used in certain of its hospitals for patient and clinical systems, including software required to meet criteria for meaningful use attestation and ICD-10 compliance. This analysis resulted in management reassessing its usage of certain software products and rationalizing that, with the addition of the HMA hospitals in the first quarter of 2014, those software applications were going to be discontinued and replaced with new applications that better integrate meaningful use and ICD-10 compliance, are more cost effective and can be implemented at a greater efficiency of scale over future implementations. During the year ended December 31, 2014, the Company recorded an impairment charge of approximately $24 million related to software in-process that was abandoned and the acceleration of amortization of approximately $75 million related to shortening the remaining useful life of software abandoned.

6. INCOME TAXES

The (benefit from) provision for income taxes for (loss) income from continuing operations consists of the following (in millions):

	Year Ended December 31,		
	2016	2015	2014
Current:			
Federal	$ 5	$ 7	$ (29)
State	7	7	3
	12	14	(26)
Deferred:			
Federal	(88)	103	106
State	(28)	(1)	2
	(116)	102	108
Total (benefit from) provision for income taxes for (loss) income from continuing operations	$ (104)	$ 116	$ 82

The following table reconciles the differences between the statutory federal income tax rate and the effective tax rate (dollars in millions):

	Year Ended December 31,					
	2016		2015		2014	
	Amount	%	Amount	%	Amount	%
Provision for income taxes at statutory federal rate	$ (600)	35.0 %	$ 144	35.0 %	$ 120	35.0 %
State income taxes, net of federal income tax benefit	(1)	0.1	13	3.3	11	3.2
Release of unrecognized tax benefit	-	-	-	-	(9)	(2.6)
Net income attributable to noncontrolling interests	(33)	1.9	(35)	(8.6)	(39)	(11.5)
Change in valuation allowance	(1)	0.1	(2)	(0.4)	-	-
Federal and state tax credits	(6)	0.3	(5)	(1.2)	(4)	(1.2)
Nondeductible transaction costs	3	(0.2)	-	-	3	0.9
Nondeductible goodwill	536	(31.2)	-	-	-	-
Other	(2)	0.1	1	0.3	-	-
(Benefit from) provision for income taxes and effective tax rate for (loss) income from continuing operations	$ (104)	6.1 %	$ 116	28.4 %	$ 82	23.8 %

The Company's effective tax rates were 6.1%, 28.4% and 23.8% for the years ended December 31, 2016, 2015 and 2014, respectively. Including the net income attributable to noncontrolling interests, which is not tax effected in the consolidated statement of (loss) income, the effective tax rate for the years ended December 31, 2016, 2015 and 2014 would have been 5.7%, 37.6% and 35.5% respectively. This decrease in the Company's effective tax rate for the year ended December 31, 2016, when compared to the year ended December 31, 2015, was primarily due to the non-deductible nature of goodwill written off for impairment and divestitures, as well as the non-deductible nature of certain costs incurred to complete the spin-off of QHC.

Deferred income taxes are based on the estimated future tax effects of differences between the financial statement and tax bases of assets and liabilities under the provisions of the enacted tax laws. Deferred income taxes as of December 31, 2016 and 2015 consist of (in millions):

	December 31,			
	2016		2015	
	Assets	Liabilities	Assets	Liabilities
Net operating loss and credit carryforwards	$ 412	$ -	$ 609	$ -
Property and equipment	-	583	-	836
Self-insurance liabilities	130	-	149	-
Prepaid expenses	-	61	-	62
Intangibles	-	238	-	353
Investments in unconsolidated affiliates	-	81	-	133
Other liabilities	-	22	-	16
Long-term debt and interest	-	12	-	20
Accounts receivable	70	-	21	-
Accrued vacation	56	-	66	-
Other comprehensive income	38	-	45	-
Stock-based compensation	23	-	31	-
Deferred compensation	132	-	125	-
Other	125	-	117	-
	986	997	1,163	1,420
Valuation allowance	(385)	-	(336)	-
Total deferred income taxes	$ 601	$ 997	$ 827	$ 1,420

The Company believes that the net deferred tax assets will ultimately be realized, except as noted below. Its conclusion is based on its estimate of future taxable income and the expected timing of temporary difference reversals. The Company has state net operating loss carryforwards of approximately $5.5 billion, which expire from 2017 to 2036. The Company also has unrecognized deferred tax assets primarily related to interest expense that are included in other comprehensive income. If recognized, additional state net operating losses will be created which the Company does not expect to be able to utilize prior to the expiration of the carryforward period. A valuation allowance of approximately $4 million has been recognized for those items. With respect to the deferred tax liability pertaining to intangibles, as included above, goodwill purchased in connection with certain of the Company's business acquisitions is amortizable for income tax reporting purposes. However, for financial reporting purposes, there is no corresponding amortization allowed with respect to such purchased goodwill.

The valuation allowance increased by $49 million and $56 million during the years ended December 31, 2016 and 2015, respectively. In addition to amounts previously discussed, the change in valuation allowance relates to a redetermination of the amount of, and realizability of, net operating losses and credits in certain income tax jurisdictions.

The total amount of unrecognized benefit that would affect the effective tax rate, if recognized, was approximately $9 million as of December 31, 2016. A total of approximately $3 million of interest and penalties is included in the amount of the liability for uncertain tax positions at December 31, 2016. It is the Company's policy to recognize interest and penalties related to unrecognized benefits in its consolidated statements of (loss) income as income tax expense.

It is possible the amount of unrecognized tax benefit could change in the next 12 months as a result of a lapse of the statute of limitations and settlements with taxing authorities; however, the Company does not anticipate the change will have a material impact on the Company's consolidated results of operations or consolidated financial position.

The following is a tabular reconciliation of the total amount of unrecognized tax benefit for the years ended December 31, 2016, 2015 and 2014 (in millions):

	Year Ended December 31,		
	2016	2015	2014
Unrecognized tax benefit, beginning of year	$ 15	$ 16	$ -
Gross increases — assumed liability of acquired entity	-	-	26
Gross increases — tax positions in current period	4	-	-
Reductions — tax positions in prior period	-	-	(8)
Lapse of statute of limitations	(1)	(1)	(1)
Settlements	-	-	(1)
Unrecognized tax benefit, end of year	$ 18	$ 15	$ 16

The Company, or one of its subsidiaries, files income tax returns in the United States federal jurisdiction and various state jurisdictions. The Company has extended the federal statute of limitations through March 31, 2017 for Triad Hospitals, Inc. for the tax periods ended December 31, 1999, December 31, 2000, April 30, 2001, June 30, 2001, December 31, 2001, December 31, 2002, December 31, 2003, December 31, 2004, December 31, 2005, December 31, 2006 and July 25, 2007. With few exceptions, the Company is no longer subject to state income tax examinations for years prior to 2012. The Company's federal income tax returns for the 2009 and 2010 tax years are currently under examination by the Internal Revenue Service. The Company believes the results of these examinations will not be material to its consolidated results of operations or consolidated financial position. The Company has extended the federal statute of limitations through January 31, 2018 for Community Health Systems, Inc. for the tax periods ended December 31, 2007, 2008, 2009 and 2010, and through December 31, 2017 for the tax periods ended December 31, 2011 and 2012.

Cash paid for income taxes, net of refunds received, resulted in a net cash refund of $16 million and $180 million during the years ended December 31, 2016 and 2014, respectively, and net cash paid of $12 million during the year ended December 31, 2015.

7. LONG-TERM DEBT

Long-term debt, net of debt issuance costs and discounts or premiums, consists of the following (in millions):

	December 31,	
	2016	2015
Credit Facility:		
Term A Loan	$ 745	$ 844
Term F Loan	1,435	1,671
Term G Loan	1,510	1,568
Term H Loan	2,776	2,884
Revolving credit loans	(10)	147
8% Senior Notes due 2019	1,920	1,992
7 1/8% Senior Notes due 2020	1,189	1,186
5 1/8% Senior Secured Notes due 2018	698	1,587
5 1/8% Senior Secured Notes due 2021	972	967
6 7/8% Senior Notes due 2022	2,932	2,921
Receivables Facility	675	699
Capital lease obligations	328	227
Other	74	92
Total debt	15,244	16,785
Less current maturities	(455)	(229)
Total long-term debt	$ 14,789	$ 16,556

The amounts in the table above represent the outstanding principal balance for each debt issue at the respective balance sheet date, adjusted for the unamortized balance of deferred debt issuance costs and any debt premium or discount.

Credit Facility

The Company's wholly-owned subsidiary, CHS, has senior secured financing under a credit facility with a syndicate of financial institutions led by Credit Suisse, as administrative agent and collateral agent. In connection with the HMA merger, the Company and CHS entered into a third amendment and restatement of its credit facility (the "Credit Facility"), providing for additional financing and recapitalization of certain of the Company's term loans, including (i) the replacement of the revolving credit facility with a new $1.0 billion revolving facility maturing in 2019 (the "Revolving Facility"), (ii) the addition of a new $1.0 billion Term A facility due 2019 (the "Term A Facility"), (iii) a Term D facility in an aggregate principal amount equal to approximately $4.6 billion due 2021 (which included certain term C loans that were converted into such Term D facility (collectively, the "Term D Facility")), (iv) the conversion of certain term C loans into Term E Loans and the borrowing of new Term E Loans in an aggregate principal amount of approximately $1.7 billion due 2017 and (v) the addition of flexibility commensurate with the Company's post-acquisition structure. In addition to funding a portion of the consideration in connection with the HMA merger, some of the proceeds of the Term A Facility and Term D Facility were used to refinance the outstanding $637 million existing term A facility due 2016 and the $60 million of term B loans due 2014, respectively. The Revolving Facility includes a subfacility for letters of credit.

On March 9, 2015, CHS entered into Amendment No. 1 and Incremental Term Loan Assumption Agreement to refinance the existing Term E Loans due 2017 into Term F Loans due 2018, in an original aggregated principal amount of $1.7 billion (the "Term F Facility"). On May 18, 2015, CHS entered into an Incremental Term Loan Assumption Agreement to provide for a new $1.6 billion incremental Term G facility due 2019 (the "Term G

Facility") and a new approximately $2.9 billion incremental Term H facility due 2021 (the "Term H Facility"). The proceeds of the Term G Facility and Term H Facility were used to repay the Company's existing Term D Facility in full. Pursuant to a special distribution paid by QHC to the Company as part of the series of transactions to complete the spin-off, the Company received approximately $1.2 billion in cash generated from the net proceeds of certain financing arrangements entered into by QHC as part of the separation. On April 29, 2016, using part of the cash generated from the QHC spin-off, the Company repaid approximately $190 million of its Term F Facility. On December 30, 2016, using the cash generated from the sale of a majority ownership in the Company's home care division and from the completion of the sale-lease back transaction for ten of the Company's owned medical office buildings, the Company repaid approximately $48 million of the Term F Facility, approximately $26 million of the Term A Facility, approximately $52 million of the Term G Facility and $96 million of the Term H Facility.

On December 5, 2016, CHS entered into Amendment No. 2 to the Credit Facility ("Amendment No. 2") to adjust upward the maximum leverage ratios and adjust downward the minimum interest coverage ratio the Company is required to comply with each fiscal quarter under the financial maintenance covenants in the Credit Facility. In connection with the amendment, the Company agreed to certain other additional undertakings for the benefit of the lenders under the Revolving Facility and the Term A Facility.

The loans under the Credit Facility bear interest on the outstanding unpaid principal amount at a rate equal to an applicable percentage plus, at CHS' option, either (a) an Alternate Base Rate (as defined) determined by reference to the greater of (1) the Prime Rate (as defined) announced by Credit Suisse or (2) the Federal Funds Effective Rate (as defined) plus 0.50% or (3) the adjusted London Interbank Offered Rate ("LIBOR") on such day for a three-month interest period commencing on the second business day after such day plus 1% or (b) LIBOR. Loans in respect of the Revolving Facility and the Term A Facility will accrue interest at a rate per annum initially equal to LIBOR plus 2.75%, in the case of LIBOR borrowings, and Alternate Base Rate plus 1.75%, in the case of Alternate Base Rate borrowings. In addition, the margin in respect of the Revolving Facility and the Term A Facility will be subject to adjustment determined by reference to a leverage-based pricing grid. Loans in respect of the Term F Facility will accrue interest at a rate per annum equal to LIBOR plus 3.25%, in the case of LIBOR borrowings, and Alternate Base Rate plus 2.25%, in the case of Alternate Base Rate borrowings. The Term G Loan and Term H Loan will accrue interest at a rate per annum equal to LIBOR plus 2.75% and 3.00%, respectively, in the case of LIBOR borrowings, and Alternate Base Rate plus 1.75% and 2.00%, respectively, in the case of Alternate Base Rate borrowings. The Term G Loan and the Term H Loan are subject to a 1.00% LIBOR floor and a 2.00% Alternate Base Rate floor.

Under the Term A Facility, CHS is required to make amortization payments in aggregate amounts equal to 15% of the original principal amount of the Term A Facility in 2017 and 45% of the original principal amount of the Term A Facility in 2018. Under the Term F Facility, the Term G Facility and the Term H Facility, CHS is required to make amortization payments in aggregate amounts equal to 1% of the original principal amount of the Term F Facility, the Term G Facility, or the Term H Facility, as applicable, each year.

The term loan facility must be prepaid in an amount equal to (1) 100% of the net cash proceeds of certain asset sales and dispositions by the Company and its subsidiaries, subject to certain exceptions and reinvestment rights (provided that, in connection with Amendment No. 2, CHS agreed with the lenders under the Revolving Facility and the Term A Facility not to exercise such reinvestment rights prior to January 1, 2018), (2) 100% of the net cash proceeds of issuances of certain debt obligations or receivables-based financing by the Company and its subsidiaries, subject to certain exceptions, and (3) 50%, subject to reduction to a lower percentage based on the Company's leverage ratio (as defined in the Credit Facility generally as the ratio of total debt on the date of determination to the Company's EBITDA, as defined, for the four quarters most recently ended prior to such date), of excess cash flow (as defined) for any year, subject to certain exceptions. Voluntary prepayments and commitment reductions are permitted in whole or in part, without any premium or penalty, subject to minimum prepayment or reduction requirements.

The borrower under the Credit Facility is CHS. All of the obligations under the Credit Facility are unconditionally guaranteed by the Company and certain of its existing and subsequently acquired or organized domestic subsidiaries. All obligations under the Credit Facility and the related guarantees are secured by a perfected first priority lien or security interest in substantially all of the assets of the Company, CHS and each subsidiary guarantor, including equity interests held by the Company, CHS or any subsidiary guarantor, but excluding, among others, the equity interests of non-significant subsidiaries, syndication subsidiaries, securitization subsidiaries and joint venture subsidiaries. Such assets constitute substantially the same assets, subject to certain exceptions, that secure CHS' obligations under the 2018 Senior Secured Notes (as defined below) and the 2021 Senior Secured Notes (as defined below).

CHS has agreed to pay letter of credit fees equal to the applicable percentage then in effect with respect to LIBOR borrowings under the Revolving Facility times the maximum aggregate amount available to be drawn under all letters of credit outstanding under the subfacility for letters of credit. The issuer of any letter of credit issued under the subfacility for letters of credit will also receive a customary fronting fee and other customary processing charges. CHS is obligated to pay commitment fees of 0.50% per annum (subject to adjustment based upon the Company's leverage ratio) on the unused portion of the Revolving Facility.

The Credit Facility contains customary representations and warranties, subject to limitations and exceptions, and customary covenants restricting the Company's and its subsidiaries' ability, subject to certain exceptions, to, among other things (1) declare dividends, make distributions or redeem or repurchase capital stock, (2) prepay, redeem or repurchase other debt, (3) incur liens or grant negative pledges, (4) make loans and investments and enter into acquisitions and joint ventures, (5) incur additional indebtedness or provide certain guarantees, (6) make capital expenditures, (7) engage in mergers, acquisitions and asset sales, (8) conduct transactions with affiliates, (9) alter the nature of the Company's businesses, (10) grant certain guarantees with respect to physician practices, (11) engage in sale and leaseback transactions or (12) change the Company's fiscal year. The Company is also required to comply with specified financial covenants (consisting of a maximum secured net leverage ratio and an interest coverage ratio) and various affirmative covenants. Under the Credit Facility, the secured net leverage ratio is calculated as the ratio of total secured debt, less unrestricted cash and cash equivalents, to consolidated EBITDA, as defined in the Credit Facility, and the interest coverage ratio is the ratio of consolidated EBITDA, as defined in the Credit Facility, to consolidated interest expense for the period. The calculation of consolidated EBITDA as defined in the Credit Facility is a trailing 12-month calculation that begins with net income attributable to the Company, with certain pro forma adjustments to consider the impact of material acquisitions or divestitures, and adjustments for interest, taxes, depreciation and amortization, net income attributable to noncontrolling interests, stock compensation expense, restructuring costs, and the financial impact of other non-cash or non-recurring items recorded during any such 12-month period. For the 12-month period ended December 31, 2016, the secured net leverage ratio financial covenant in the Credit Facility limited the ratio of secured debt to EBITDA, as defined, to less than or equal to 4.50 to 1.00, which will decrease to 4.00 to 1.00 on January 1, 2018. For the 12-month period ended December 31, 2016, the interest coverage ratio financial covenant in the Credit Facility required the ratio of consolidated EBITDA, as defined, to consolidated interest expense to be greater than or equal to 2.00 to 1.00, which will increase to 2.25 to 1.00 on January 1, 2018. The Company was in compliance with all such covenants at December 31, 2016, with a secured net leverage ratio of approximately 3.96 to 1.00 and an interest coverage ratio of approximately 2.43 to 1.00.

Events of default under the Credit Facility include, but are not limited to, (1) CHS' failure to pay principal, interest, fees or other amounts under the credit agreement when due (taking into account any applicable grace period), (2) any representation or warranty proving to have been materially incorrect when made, (3) covenant defaults subject, with respect to certain covenants, to an available cure through the issuance of qualified equity for a period of 60 days after the end of the first three quarters and 100 days after a year end, (4) bankruptcy and insolvency events, (5) a cross default to certain other debt, (6) certain undischarged judgments (not paid within

an applicable grace period), (7) a change of control (as defined), (8) certain ERISA-related defaults and (9) the invalidity or impairment of specified security interests, guarantees or subordination provisions in favor of the administrative agent or lenders under the Credit Facility.

As of December 31, 2016, the availability for additional borrowings under the Credit Facility, subject to certain limitations as set forth in the Credit Facility, was approximately $1.0 billion pursuant to the Revolving Facility, of which $55 million is in the form of outstanding letters of credit. CHS has the ability to amend the Credit Facility to provide for one or more tranches of term loans or increases in the Revolving Facility in an aggregate principal amount of up to $1.5 billion, only $750 million of which is effectively available because of the Company's additional undertakings in connection with Amendment No. 2. As of December 31, 2016, the weighted-average interest rate under the Credit Facility, excluding swaps, was 5.0%.

As of December 31, 2016, the term loans and outstanding revolving credit loans are scheduled to be paid with principal payments for future years as follows (in millions):

Year	Amount
2017	$ 149
2018	1,895
2019	1,678
2020	29
2021	2,782
Thereafter	-
Total maturities	6,533
Less: Deferred debt issuance costs	(77)
Total term loans and outstanding revolving credit loans	$ 6,456

As of December 31, 2016, the Company had letters of credit issued, primarily in support of potential insurance-related claims and certain bonds, of approximately $55 million.

8% Senior Notes due 2019

On November 22, 2011, CHS completed an offering of $1.0 billion aggregate principal amount of 8% Senior Notes due 2019 (the "8% Senior Notes"), which were issued in a private placement. The net proceeds from this issuance, together with available cash on hand, were used to finance the purchase of up to $1.0 billion aggregate principal amount of CHS' then outstanding 8⅞% Senior Notes due 2015 and related fees and expenses. On March 21, 2012, CHS completed an offering of an additional $1.0 billion aggregate principal amount of 8% Senior Notes, which were issued in a private placement (at a premium of 102.5%). The net proceeds from this issuance were used to finance the purchase of approximately $850 million aggregate principal amount of CHS' then outstanding 8⅞% Senior Notes due 2015, to pay related fees and expenses and for general corporate purposes. The 8% Senior Notes bear interest at 8% per annum, payable semiannually in arrears on May 15 and November 15, commencing May 15, 2012. Interest on the 8% Senior Notes accrues from the date of original issuance. Interest is calculated on the basis of a 360-day year comprised of twelve 30-day months.

CHS is entitled, at its option, to redeem all or a portion of the 8% Senior Notes upon not less than 30 nor more than 60 days' notice, at the following redemption prices (expressed as a percentage of principal amount on the redemption date), plus accrued and unpaid interest, if any, to the redemption date (subject to the right of holders of record on the relevant record date to receive interest due on the relevant interest payment date), if redeemed during the periods set forth below:

Period	Redemption Price
November 15, 2016 to November 14, 2017	102.000%
November 15, 2017 to November 14, 2019	100.000%

Pursuant to a registration rights agreement entered into at the time of the issuance of the 8% Senior Notes, as a result of an exchange offer made by CHS, substantially all of the 8% Senior Notes issued in November 2011 and March 2012 were exchanged in May 2012 for new notes (the "8% Exchange Notes") having terms substantially identical in all material respects to the 8% Senior Notes (except that the 8% Exchange Notes were issued under a registration statement pursuant to the Securities Act of 1933, as amended (the "1933 Act")). References to the 8% Senior Notes shall also be deemed to include the 8% Exchange Notes unless the context provides otherwise.

During the year ended December 31, 2016, the Company repurchased approximately $75 million of aggregate principal amount outstanding of the 8% Senior Notes in open market transactions.

7 1/8% Senior Notes due 2020

On July 18, 2012, CHS completed an underwritten public offering under its automatic shelf registration statement filed with the SEC of $1.2 billion aggregate principal amount of 7 1/8% Senior Notes due 2020 (the "7 1/8% Senior Notes"). The net proceeds from this issuance were used to finance the purchase or redemption of $934 million aggregate principal amount of CHS' then outstanding 8 7/8% Senior Notes due 2015, to pay for consents delivered in connection with a related tender offer, to pay related fees and expenses, and for general corporate purposes. The 7 1/8% Senior Notes bear interest at 7.125% per annum, payable semiannually in arrears on July 15 and January 15, commencing January 15, 2013. Interest on the 7 1/8% Senior Notes accrues from the date of original issuance. Interest is calculated on the basis of a 360-day year comprised of twelve 30-day months.

CHS is entitled, at its option, to redeem all or a portion of the 7 1/8% Senior Notes upon not less than 30 nor more than 60 days' notice, at the following redemption prices (expressed as a percentage of principal amount on the redemption date), plus accrued and unpaid interest, if any, to the redemption date (subject to the right of holders of record on the relevant record date to receive interest due on the relevant interest payment date), if redeemed during the periods set forth below:

Period	Redemption Price
July 15, 2016 to July 14, 2017	103.563 %
July 15, 2017 to July 14, 2018	101.781 %
July 15, 2018 to July 15, 2020	100.000 %

5 1/8% Senior Secured Notes due 2018

On August 17, 2012, CHS completed an underwritten public offering under its automatic shelf registration statement filed with the SEC of $1.6 billion aggregate principal amount of 5 1/8% Senior Secured Notes due 2018 (the "2018 Senior Secured Notes"). The net proceeds from this issuance, together with available cash on hand, were used to finance the prepayment of $1.6 billion of the then outstanding term loans due 2014 under the Credit

Facility and related fees and expenses. The 2018 Senior Secured Notes bear interest at 5.125% per annum, payable semiannually in arrears on August 15 and February 15, commencing February 15, 2013. Interest on the 2018 Senior Secured Notes accrues from the date of original issuance. Interest is calculated on the basis of a 360-day year comprised of twelve 30-day months. The 2018 Senior Secured Notes are secured by a first-priority lien subject to a shared lien of equal priority with certain other obligations, including obligations under the Credit Facility, and subject to prior ranking liens permitted by the indenture governing the 2018 Senior Secured Notes on substantially the same assets, subject to certain exceptions, that secure CHS' obligations under the Credit Facility.

CHS is entitled, at its option, to redeem all or a portion of the 2018 Senior Secured Notes upon not less than 30 nor more than 60 days' notice, at the following redemption prices (expressed as a percentage of principal amount on the redemption date), plus accrued and unpaid interest, if any, to the redemption date (subject to the right of holders of record on the relevant record date to receive interest due on the relevant interest payment date), if redeemed during the periods set forth below:

Period	Redemption Price
August 15, 2016 to August 14, 2017	101.281 %
August 15, 2017 to August 14, 2018	100.000 %

On May 16, 2016, using part of the cash generated from the QHC spin-off, the Company completed a cash tender offer for $900 million aggregate principal amount outstanding of the 2018 Senior Secured Notes.

5⅛% Senior Secured Notes due 2021

On January 27, 2014, CHS issued $1.0 billion aggregate principal amount of 5⅛% Senior Secured Notes due 2021 (the "2021 Senior Secured Notes") in connection with the HMA merger, which were issued in a private placement. The net proceeds from this issuance were used to finance the HMA merger. The 2021 Senior Secured Notes bear interest at 5.125% per annum, payable semiannually in arrears on February 1 and August 1, commencing August 1, 2014. Interest on the 2021 Senior Secured Notes accrues from the date of original issuance. Interest is calculated on the basis of a 360-day year comprised of twelve 30-day months. The 2021 Senior Secured Notes are secured by a first-priority lien, subject to a shared lien of equal priority with certain other obligations, including obligations under the Credit Facility and the 2018 Senior Secured Notes, and subject to prior ranking liens permitted by the indenture governing the 2021 Senior Secured Notes, on substantially the same assets, subject to certain exceptions, that secure CHS' obligations under the Credit Facility and the 2018 Senior Secured Notes.

CHS is entitled, at its option, to redeem all or a portion of the 2021 Senior Secured Notes upon not less than 30 nor more than 60 days' notice, at the following redemption prices (expressed as a percentage of principal amount on the redemption date), plus accrued and unpaid interest, if any, to the redemption date (subject to the right of holders of record on the relevant record date to receive interest due on the relevant interest payment date), if redeemed during the periods set forth below:

Period	Redemption Price
February 1, 2017 to January 31, 2018	103.844 %
February 1, 2018 to January 31, 2019	102.563 %
February 1, 2019 to January 31, 2020	101.281 %
February 1, 2020 to January 31, 2021	100.000 %

Pursuant to a registration rights agreement entered into at the time of the issuance of the 2021 Senior Secured Notes, as a result of an exchange offer made by CHS, all of the 2021 Senior Secured Notes issued in January

2014 were exchanged in October 2014 for new notes (the "2021 Exchange Notes") having terms substantially identical in all material respects to the 2021 Senior Secured Notes (except that the exchange notes were issued under a registration statement pursuant to the 1933 Act). References to the 2021 Senior Secured Notes shall be deemed to be the 2021 Exchange Notes unless the context provides otherwise.

6⅞% Senior Notes due 2022

On January 27, 2014, CHS issued $3.0 billion aggregate principal amount of 6⅞% Senior Notes due 2022 (the "6⅞% Senior Notes") in connection with the HMA merger, which were issued in a private placement. The net proceeds from this issuance were used to finance the HMA merger. The 6⅞% Senior Notes bear interest at 6.875% per annum, payable semiannually in arrears on February 1 and August 1, commencing August 1, 2014. Interest on the 6⅞% Senior Notes accrues from the date of original issuance. Interest is calculated on the basis of a 360-day year comprised of twelve 30-day months.

Prior to February 1, 2018, CHS may redeem some or all of the 6⅞% Senior Notes at a redemption price equal to 100% of the principal amount of the notes redeemed plus accrued and unpaid interest, if any, plus a "make-whole" premium, as described in the indenture governing the 6⅞% Senior Notes. After February 1, 2018, CHS is entitled, at its option, to redeem all or a portion of the 6⅞% Senior Notes upon not less than 30 nor more than 60 days' notice, at the following redemption prices (expressed as a percentage of principal amount on the redemption date), plus accrued and unpaid interest, if any, to the redemption date (subject to the right of holders of record on the relevant record date to receive interest due on the relevant interest payment date), if redeemed during the periods set forth below:

Period	Redemption Price
February 1, 2018 to January 31, 2019	103.438 %
February 1, 2019 to January 31, 2020	101.719 %
February 1, 2020 to January 31, 2022	100.000 %

Pursuant to a registration rights agreement entered into at the time of the issuance of the 6⅞% Senior Notes, as a result of an exchange offer made by CHS, all of the 6⅞% Senior Notes issued in January 2014 were exchanged in October 2014 for new notes (the "6⅞% Exchange Notes") having terms substantially identical in all material respects to the 6⅞% Senior Notes (except that the exchange notes were issued under a registration statement pursuant to the 1933 Act). References to the 6⅞% Senior Notes shall be deemed to be the 6⅞% Exchange Notes unless the context provides otherwise.

Receivables Facility

On March 21, 2012, through certain of its subsidiaries, CHS entered into an accounts receivable loan agreement (the "Receivables Facility") with a group of lenders and banks, Credit Agricolé Corporate and Investment Bank, as a managing agent and as the administrative agent, and The Bank of Nova Scotia, as a managing agent. On March 7, 2013, CHS and certain of its subsidiaries amended the Receivables Facility to add an additional managing agent, The Bank of Tokyo-Mitsubishi UFJ, Ltd., to increase the size of the facility from $300 million to $500 million and to extend the scheduled termination date. Additional subsidiaries also agreed to participate in the Receivables Facility as of that date. On March 31, 2014, CHS and certain of its subsidiaries amended the Receivables Facility to increase the size of the facility from $500 million to $700 million and to extend the scheduled termination date. Additional subsidiaries also agreed to participate in the Receivables Facility as of that date. On November 13, 2015, CHS and certain of its subsidiaries amended the Receivables Facility to extend the scheduled termination date and amend certain other provisions thereof. On November 18, 2016, CHS and certain of its subsidiaries amended the Receivables Facility to extend the scheduled termination date in respect of a $450 million portion of the commitments thereunder and amend certain other provisions

thereof. The existing and future non-self pay patient-related accounts receivable (the "Receivables") for certain affiliated hospitals serve as collateral for the outstanding borrowings under the Receivables Facility. The interest rate on the borrowings is based on the commercial paper rate plus an applicable interest rate spread. Unless earlier terminated or subsequently extended pursuant to its terms, the Receivables Facility will expire on November 13, 2018 in respect of a $450 million portion of the commitments thereunder and November 13, 2017 in respect of the remaining $250 million of commitments thereunder, subject to customary termination events that could cause an early termination date. CHS maintains effective control over the Receivables because, pursuant to the terms of the Receivables Facility, the Receivables are sold from certain of CHS' subsidiaries to CHS, and CHS then sells or contributes the Receivables to a special-purpose entity that is wholly-owned by CHS. The wholly-owned special-purpose entity in turn grants security interests in the Receivables in exchange for borrowings obtained from the group of third-party lenders and banks of up to $700 million outstanding from time to time based on the availability of eligible Receivables and other customary factors. The wholly-owned special-purpose entity is not a subsidiary guarantor under the Credit Facility or CHS' outstanding notes. The group of third-party lenders and banks do not have recourse to CHS or its subsidiaries beyond the assets of the wholly-owned special-purpose entity that collateralizes the loan. The Receivables and other assets of the wholly-owned special-purpose entity will be available first and foremost to satisfy the claims of the creditors of such entity. The outstanding borrowings pursuant to the Receivables Facility at December 31, 2016 totaled $677 million with approximately $435 million classified as long-term debt on the consolidated balance sheet. At December 31, 2016, the carrying amount of Receivables included in the Receivables Facility totaled approximately $1.7 billion and is included in patient accounts receivable on the consolidated balance sheet.

Loss from Early Extinguishment of Debt

The financing and repayment transactions discussed above resulted in a loss from the early extinguishment of debt of $30 million, $16 million and $73 million for the years ended December 31, 2016, 2015 and 2014, respectively, and an after-tax loss of $19 million, $10 million and $45 million for the years ended December 31, 2016, 2015 and 2014, respectively.

Other Debt

As of December 31, 2016, other debt consisted primarily of the mortgage obligation on the Company's corporate headquarters and other obligations maturing in various installments through 2021.

To limit the effect of changes in interest rates on a portion of the Company's long-term borrowings, the Company is a party to 10 separate interest swap agreements in effect at December 31, 2016, with an aggregate notional amount for currently effective swaps of $2.6 billion. On each of these swaps, the Company receives a variable rate of interest based on the three-month LIBOR in exchange for the payment of a fixed rate of interest. The Company currently pays, on a quarterly basis, interest on the Revolving Facility and the Term A Facility at a rate per annum equal to LIBOR plus 2.75%. Loans in respect of the Term F Facility accrue interest at a rate per annum equal to LIBOR plus 3.25%. The Term G Loan and Term H Loan accrue interest at a rate per annum equal to LIBOR plus 2.75% and 3.00%, in the case of LIBOR borrowings, respectively, and Alternate Base Rate plus 1.75% and 2.00%, respectively, in the case of Alternate Base Rate Borrowings. The Term G Loan and the Term H Loan are subject to a 1.00% LIBOR floor and a 2.00% Alternate Base Rate floor. See Note 8 for additional information regarding these swaps.

As of December 31, 2016, the scheduled maturities of long-term debt outstanding, including capital lease obligations for each of the next five years and thereafter are as follows (in millions):

Year	Amount
2017	$ 455
2018	3,054
2019	3,641
2020	1,240
2021	3,790
Thereafter	3,257
Total maturities	15,437
Less: Deferred debt issuance costs	(204)
Plus unamortized note premium	11
Total long-term debt	$ 15,244

The Company paid interest of $930 million, $925 million and $831 million on borrowings during the years ended December 31, 2016, 2015 and 2014, respectively.

8. FAIR VALUE OF FINANCIAL INSTRUMENTS

The fair value of financial instruments has been estimated by the Company using available market information as of December 31, 2016 and December 31, 2015, and valuation methodologies considered appropriate. The estimates presented in the table below are not necessarily indicative of amounts the Company could realize in a current market exchange (in millions):

	December 31, 2016		December 31, 2015	
	Carrying Amount	Estimated Fair Value	Carrying Amount	Estimated Fair Value
Assets:				
Cash and cash equivalents	$ 238	$ 238	$ 184	$ 184
Available-for-sale securities	299	299	271	271
Trading securities	80	80	61	61
Liabilities:				
Contingent Value Right	1	1	2	2
Credit Facility	6,456	6,370	7,114	7,115
8% Senior Notes	1,920	1,615	1,992	2,018
7 1/8% Senior Notes	1,189	917	1,186	1,193
5 1/8% Senior Secured Notes due 2018	698	690	1,587	1,610
5 1/8% Senior Secured Notes due 2021	972	930	967	997
6 7/8% Senior Notes	2,932	2,102	2,921	2,858
Receivables Facility and other debt	749	749	791	791

The estimated fair value is determined using the methodologies discussed below in accordance with accounting standards related to the determination of fair value based on the U.S. GAAP fair value hierarchy as discussed in Note 9. The estimated fair value for financial instruments with a fair value that does not equal its

carrying value is considered a Level 1 valuation. The Company utilizes the market approach and obtains indicative pricing from the administrative agent to the Credit Facility to determine fair values or through publicly available subscription services such as Bloomberg where relevant.

Cash and cash equivalents. The carrying amount approximates fair value due to the short-term maturity of these instruments (less than three months).

Available-for-sale securities. Estimated fair value is based on closing price as quoted in public markets or other various valuation techniques.

Trading securities. Estimated fair value is based on closing price as quoted in public markets.

Contingent Value Right. Estimated fair value is based on the closing price as quoted on the public market where the CVR is traded.

Credit Facility. Estimated fair value is based on publicly available trading activity and supported with information from the Company's bankers regarding relevant pricing for trading activity among the Company's lending institutions.

8% Senior Notes. Estimated fair value is based on the closing market price for these notes.

7 1/8% Senior Notes. Estimated fair value is based on the closing market price for these notes.

5 1/8% Senior Secured Notes due 2018. Estimated fair value is based on the closing market price for these notes.

5 1/8% Senior Secured Notes due 2021. Estimated fair value is based on the closing market price for these notes.

6 7/8% Senior Notes. Estimated fair value is based on the closing market price for these notes.

Receivables Facility and other debt. The carrying amount of the Receivables Facility and all other debt approximates fair value due to the nature of these obligations.

Interest rate swaps. The fair value of interest rate swap agreements is the amount at which they could be settled, based on estimates calculated by the Company using a discounted cash flow analysis based on observable market inputs and validated by comparison to estimates obtained from the counterparty. The Company incorporates credit valuation adjustments ("CVAs") to appropriately reflect both its own nonperformance or credit risk and the respective counterparty's nonperformance or credit risk in the fair value measurements. In adjusting the fair value of its interest rate swap agreements for the effect of nonperformance or credit risk, the Company has considered the impact of any netting features included in the agreements.

The Company assesses the effectiveness of its hedge instruments on a quarterly basis. For the years ended December 31, 2016 and 2015, the Company completed an assessment of the cash flow hedge instruments and determined the hedges to be highly effective. The Company has also determined that the ineffective portion of the hedges do not have a material effect on the Company's consolidated financial position, operations or cash flows. The counterparties to the interest rate swap agreements expose the Company to credit risk in the event of nonperformance. However, at December 31, 2016, all of the swap agreements entered into by the Company were in a net liability position such that the Company would be required to make the net settlement payments to the counterparties; the Company does not anticipate nonperformance by those counterparties. The Company does not hold or issue derivative financial instruments for trading purposes.

Interest rate swaps consisted of the following at December 31, 2016:

Swap #	Notional Amount (in millions)	Fixed Interest Rate	Termination Date	Fair Value (in millions)
1	$ 200	2.055 %	July 25, 2019	$ 3
2	200	2.059 %	July 25, 2019	2
3	400	1.882 %	August 30, 2019	3
4	200	2.515 %	August 30, 2019	5
5	200	2.613 %	August 30, 2019	5
6	300	2.041 %	August 30, 2020	2
7	300	2.738 %	August 30, 2020	9
8	300	2.892 %	August 30, 2020	11
9	300	2.363 %	January 27, 2021	5
10	200	2.368 %	January 27, 2021	4

The Company is exposed to certain risks relating to its ongoing business operations. The risk managed by using derivative instruments is interest rate risk. Interest rate swaps are entered into to manage interest rate fluctuation risk associated with the term loans in the Credit Facility. Companies are required to recognize all derivative instruments as either assets or liabilities at fair value in the consolidated statement of financial position. The Company designates its interest rate swaps as cash flow hedges. For derivative instruments that are designated and qualify as cash flow hedges, the effective portion of the gain or loss on the derivative is reported as a component of other comprehensive income ("OCI") and reclassified into earnings in the same period or periods during which the hedged transactions affect earnings. Gains and losses on the derivative representing either hedge ineffectiveness or hedge components excluded from the assessment of effectiveness are recognized in current earnings.

Assuming no change in December 31, 2016 interest rates, approximately $35 million of interest expense resulting from the spread between the fixed and floating rates defined in each interest rate swap agreement will be recognized during the next 12 months. If interest rate swaps do not remain highly effective as a cash flow hedge, the derivatives' gains or losses resulting from the change in fair value reported through OCI will be reclassified into earnings.

The following tabular disclosure provides the amount of pre-tax loss recognized as a component of OCI during the years ended December 31, 2016, 2015 and 2014 (in millions):

Derivatives in Cash Flow Hedging Relationships	Amount of Pre-Tax Loss Recognized in OCI (Effective Portion) Year Ended December 31,		
	2016	2015	2014
Interest rate swaps	$ (27)	$ (51)	$ (41)

The following tabular disclosure provides the location of the effective portion of the pre-tax loss reclassified from accumulated other comprehensive loss ("AOCL") into interest expense on the consolidated statements of (loss) income during the years ended December 31, 2016, 2015 and 2014 (in millions):

Location of Loss Reclassified from AOCL into Income (Effective Portion)	Amount of Pre-Tax Loss Reclassified from AOCL into Income (Effective Portion)		
	Year Ended December 31,		
	2016	2015	2014
Interest expense, net	$ 54	$ 42	$ 61

The fair values of derivative instruments in the consolidated balance sheets as of December 31, 2016 and December 31, 2015 were as follows (in millions):

	Asset Derivatives				Liability Derivatives			
	December 31, 2016		December 31, 2015		December 31, 2016		December 31, 2015	
	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value
Derivatives designated as hedging instruments	Other assets, net	$ -	Other assets, net	$ -	Other long-term liabilities	$ 49	Other long-term liabilities	$ 76

9. FAIR VALUE

Fair Value Hierarchy

Fair value is a market-based measurement, not an entity-specific measurement. Therefore, a fair value measurement should be determined based on the assumptions that market participants would use in pricing the asset or liability. As a basis for considering market participant assumptions in fair value measurements, the Company utilizes the U.S. GAAP fair value hierarchy that distinguishes between market participant assumptions based on market data obtained from sources independent of the reporting entity (observable inputs that are classified within Levels 1 and 2 of the hierarchy) and the reporting entity's own assumption about market participant assumptions (unobservable inputs classified within Level 3 of the hierarchy).

The inputs used to measure fair value are classified into the following fair value hierarchy:

Level 1: Quoted market prices in active markets for identical assets or liabilities.

Level 2: Observable market-based inputs or unobservable inputs that are corroborated by market data.

Level 3: Unobservable inputs that are supported by little or no market activity and are significant to the fair value of the assets or liabilities. Level 3 includes values determined using pricing models, discounted cash flow methodologies, or similar techniques reflecting the Company's own assumptions.

In instances where the determination of the fair value hierarchy measurement is based on inputs from different levels of the fair value hierarchy, the level in the fair value hierarchy within which the entire fair value measurement falls is based on the lowest level input that is significant to the fair value measurement in its

entirety. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment of factors specific to the asset or liability. Transfers between levels within the fair value hierarchy are recognized by the Company on the date of the change in circumstances that requires such transfer. There were no transfers between levels during the years ending December 31, 2016 or December 31, 2015.

The following table sets forth, by level within the fair value hierarchy, the financial assets and liabilities recorded at fair value on a recurring basis as of December 31, 2016 and December 31, 2015 (in millions):

	December 31, 2016	Level 1	Level 2	Level 3
Available-for-sale securities	$ 299	$ 163	$ 136	$ -
Trading securities	80	80	-	-
Total assets	$ 379	$ 243	$ 136	$ -
Contingent Value Right (CVR)	$ 1	$ 1	$ -	$ -
CVR-related liability	252	-	-	252
Fair value of interest rate swap agreements	49	-	49	-
Total liabilities	$ 302	$ 1	$ 49	$ 252

	December 31, 2015	Level 1	Level 2	Level 3
Available-for-sale securities	$ 271	$ 155	$ 116	$ -
Trading securities	61	61	-	-
Total assets	$ 332	$ 216	$ 116	$ -
Contingent Value Right (CVR)	$ 2	$ 2	$ -	$ -
CVR-related liability	261	-	-	261
Fair value of interest rate swap agreements	76	-	76	-
Total liabilities	$ 339	$ 2	$ 76	$ 261

Available-for-sale securities and trading securities classified as Level 1 are measured using quoted market prices. Level 2 available-for-sale securities primarily consisted of bonds and notes issued by the United States government and its agencies and domestic and foreign corporations. The estimated fair values of these securities are determined using various valuation techniques, including a multi-dimensional relational model that incorporates standard observable inputs and assumptions such as benchmark yields, reported trades, broker/dealer quotes, issuer spreads, benchmark securities, bids/offers and other pertinent reference data.

Available-for-sale Securities

Supplemental information regarding the Company's available-for-sale securities (all of which had no withdrawal restrictions) is set forth in the table below (in millions):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Values
As of December 31, 2016:				
Debt securities and debt-based mutual funds				
Government and corporate	$ 232	$ -	$ (9)	$ 223
Equity securities and equity-based mutual funds				
Domestic	67	3	-	70
International	6	-	-	6
Totals	$ 305	$ 3	$ (9)	$ 299

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Values
As of December 31, 2015:				
Debt securities and debt-based mutual funds				
Government and corporate	$ 161	$ 1	$ (6)	$ 156
Equity securities and equity-based mutual funds				
Domestic	79	15	(1)	93
International	21	1	-	22
Totals	$ 261	$ 17	$ (7)	$ 271

As of December 31, 2016 and 2015, investments with aggregate estimated fair values of approximately $232 million (226 investments) and $119 million (329 investments), respectively, generated the gross unrealized losses disclosed in the above table. At each reporting date, the Company performs an evaluation of impaired securities to determine if the unrealized losses are other-than-temporary. This evaluation considers a number of factors including, but not limited to, the length of time and extent to which the fair value has been less than cost, and management's ability and intent to hold the securities until fair value recovers. Based on the results of this evaluation, management concluded that as of December 31, 2016, there are approximately $2 million of other-than-temporary losses related to available-for-sale securities. The recent declines in value of the remaining securities and/or length of time they have been below cost, as well as the Company's ability and intent to hold the securities for a reasonable period of time sufficient for a projected recovery of fair value, have caused management to conclude that the remaining securities, that have generated gross unrealized losses, were not other-than-temporarily impaired. Management will continue to monitor and evaluate the recoverability of the Company's available-for-sale securities.

The contractual maturities of debt-based securities held by the Company as of December 31, 2016 and 2015, excluding mutual fund holdings, are set forth in the table below (in millions). Expected maturities will differ from contractual maturities because the issuers of the debt securities may have the right to prepay their obligations without prepayment penalties.

	December 31, 2016		December 31, 2015	
	Amortized Cost	Estimated Fair Values	Amortized Cost	Estimated Fair Values
Within 1 year	$ 2	$ 2	$ 1	$ 1
After 1 year and through year 5	40	40	12	12
After 5 years and through year 10	42	40	11	11
After 10 years	57	54	22	22

Gross realized gains and losses on sales of available-for-sale securities and other investment income, which includes interest and dividends, are summarized in the table below (in millions):

	Year Ended December 31,		
	2016	2015	2014
Realized gains	$ 28	$ 8	$ 13
Realized losses	(6)	(6)	(3)
Investment income	7	8	8

Contingent Value Right (CVR)

The CVR represents the estimate of the fair value for the contingent consideration paid to HMA shareholders as part of the HMA merger. The CVR is listed on the NASDAQ and the valuation at December 31, 2016 is based on the quoted trading price for the CVR on the last day of the period. Changes in the estimated fair value of the CVR are recorded through the consolidated statements of (loss) income.

CVR-related Liability

The CVR-related legal liability represents the Company's estimate of fair value at December 31, 2016 of the liability associated with the legal matters assumed in the HMA merger, which are included in accrued liabilities in the accompanying consolidated balance sheet. This liability did not include those matters previously accrued by HMA as a probable contingency, which were settled and paid during the year ended December 31, 2015. To develop the estimate of fair value, the Company engaged an independent third-party valuation firm to measure the liability. The valuation was made utilizing the Company's estimates of future outcomes for each legal case and simulating future outcomes based on the timing, probability and distribution of several scenarios using a Monte Carlo simulation model. Other inputs were then utilized for discounting the liability to the measurement date. The HMA legal matters underlying this fair value estimate were evaluated by management to determine the likelihood and impact of each of the potential outcomes. Using that information, as well as the potential correlation and variability associated with each case, a fair value was determined for the estimated future cash outflows to conclude or settle the HMA legal matters included in the analysis, excluding legal fees (which are expensed as incurred). Because of the unobservable nature of the majority of the inputs used to value the liability, the Company has classified the fair value measurement as a Level 3 measurement in the fair value hierarchy.

The fair value of the CVR-related legal liability will be measured each reporting period using similar measurement techniques, updated for the assumptions and facts existing at that date for each of the underlying legal matters. Changes in the fair value of the CVR related legal liability are recorded in future periods through the consolidated statements of (loss) income.

Fair Value of Interest Rate Swap Agreements

The valuation of the Company's interest rate swap agreements is determined using market valuation techniques, including discounted cash flow analysis on the expected cash flows of each agreement. This analysis reflects the contractual terms of the agreement, including the period to maturity, and uses observable market-based inputs, including forward interest rate curves. The fair value of interest rate swap agreements are determined by netting the discounted future fixed cash payments and the discounted expected variable cash receipts. The variable cash receipts are based on the expectation of future interest rates based on observable market forward interest rate curves and the notional amount being hedged.

The Company incorporates CVAs to appropriately reflect both its own nonperformance or credit risk and the respective counterparty's nonperformance or credit risk in the fair value measurements. In adjusting the fair value of its interest rate swap agreements for the effect of nonperformance or credit risk, the Company has considered the impact of any netting features included in the agreements. The CVA on the Company's interest rate swap agreements resulted in a decrease in the fair value of the related liability of $3 million and an after-tax adjustment of $2 million to OCI at December 31, 2016. The CVA on the Company's interest rate swap agreements resulted in a decrease in the fair value of the related liability of $4 million and an after-tax adjustment of $2 million to OCI at December 31, 2015.

The majority of the inputs used to value the Company's interest rate swap agreements, including the forward interest rate curves and market perceptions of the Company's credit risk used in the CVAs, are observable inputs available to a market participant. As a result, the Company has determined that the interest rate swap valuations are classified in Level 2 of the fair value hierarchy.

10. LEASES

The Company leases hospitals, medical office buildings, and certain equipment under capital and operating lease agreements. During 2016, 2015 and 2014, the Company entered into capital lease obligations of $179 million, $50 million and $18 million, respectively. All lease agreements generally require the Company to pay maintenance, repairs, property taxes and insurance costs.

Commitments relating to noncancellable operating and capital leases for each of the next five years and thereafter are as follows (in millions):

Year Ending December 31,	Operating (1)	Capital
2017	$ 269	$ 43
2018	207	32
2019	156	27
2020	118	22
2021	81	22
Thereafter	246	315
Total minimum future payments	$ 1,077	461
Less: Imputed interest		(133)
Total capital lease obligations		328
Less: Current portion		(26)
Long-term capital lease obligations		$ 302

(1) Minimum lease payments have not been reduced by minimum sublease rentals due in the future of $15 million.

On December 22, 2016, the Company completed the sale and leaseback of ten medical office buildings for net proceeds of $159 million to HCP, Inc. The buildings, with a combined total of 756,183 square feet, are located in five states and support a wide array of diagnostic, medical and surgical services in an outpatient setting for the respective nearby hospitals. Because of the Company's continuing involvement in these leased buildings, the transaction does not qualify for sale treatment and the related leases have been recorded as financing obligations in the Company's consolidated balance sheet at December 31, 2016. Such financing obligations are included with the capital lease obligations discussed throughout these footnotes to the consolidated financial statements.

Assets capitalized under capital leases as reflected in the accompanying consolidated balance sheets were $69 million of land and improvements, $826 million of buildings and improvements and $56 million of equipment and fixtures as of December 31, 2016 and $74 million of land and improvements, $793 million of buildings and improvements and $112 million of equipment and fixtures as of December 31, 2015. The accumulated depreciation related to assets under capital leases was $240 million and $246 million as of December 31, 2016 and 2015, respectively. Depreciation of assets under capital leases is included in depreciation and amortization expense and amortization of debt discounts on capital lease obligations is included in interest expense in the accompanying consolidated statements of (loss) income.

11. EMPLOYEE BENEFIT PLANS

The Company maintains various benefit plans, including defined contribution plans, defined benefit plans and deferred compensation plans, for which certain of the Company's subsidiaries are the plan sponsors. The CHS/ Community Health Systems, Inc. Retirement Savings Plan is a defined contribution plan which covers the majority of the employees at subsidiaries owned prior to the HMA merger. Employees at these locations whose employment is covered by collective bargaining agreements are generally eligible to participate in the CHS/ Community Health Systems, Inc. Standard 401(k) Plan. The Company also maintains the Health Management Associates, Inc. Retirement Savings Plan, a defined contribution plan covering substantially all of the employees formerly employed by HMA. Total expense to the Company under the 401(k) plans was $98 million, $103 million and $99 million for the years ended December 31, 2016, 2015 and 2014, respectively, and is recorded in salaries and benefits expense on the consolidated statements of (loss) income.

The Company maintains unfunded deferred compensation plans that allow participants to defer receipt of a portion of their compensation. The liability for the deferred compensation plans was $229 million and $199 million as of December 31, 2016 and 2015, respectively, and is included in other long-term liabilities on the consolidated balance sheets. The Company had assets of $219 million and $197 million as of December 31, 2016 and 2015, respectively, in a non-qualified plan trust generally designated to pay benefits of the deferred compensation plans, consisting of trading securities of $80 million and $61 million as of December 31, 2016 and 2015, respectively, and company-owned life insurance contracts of $139 million and $136 million as of December 31, 2016 and 2015, respectively.

The Company provides an unfunded Supplemental Executive Retirement Plan ("SERP") for certain members of its executive management. The Company uses a December 31 measurement date for the benefit obligations and a January 1 measurement date for its net periodic costs for the SERP. Variances from actuarially assumed rates will result in increases or decreases in benefit obligations and net periodic cost in future periods. Benefits expense under the SERP was $12 million, $12 million and $11 million for the years ended December 31, 2016, 2015 and 2014, respectively. The accrued benefit liability for the SERP totaled $122 million and $131 million at December 31, 2016 and 2015, respectively, and is included in other long-term liabilities on the consolidated balance sheets. The weighted-average assumptions used in determining net periodic cost for the year ended December 31, 2016 was a discount rate of 3.6% and annual salary increase of 3.0%. The Company had available-for-sale securities in a rabbi trust generally designated to pay benefits of the SERP in the amounts of $131 million and $95 million at December 31, 2016 and 2015, respectively. These amounts are included in other assets, net on the consolidated balance sheets.

The Company maintains the CHS/Community Health Systems, Inc. Retirement Income Plan ("Pension Plan"), which is a defined benefit, non-contributory pension plan that covers certain employees at three of its hospitals. The Pension Plan provides benefits to covered individuals satisfying certain age and service requirements. Employer contributions to the Pension Plan are in accordance with the minimum funding requirements of the Employee Retirement Income Security Act of 1974, as amended. The Company expects to make no contribution to the Pension Plan in 2017. The Company uses a December 31 measurement date for the benefit obligations and a January 1 measurement date for its net periodic costs for the Pension Plan. Variances from actuarially assumed rates will result in increases or decreases in benefit obligations, net periodic cost and funding requirements in future periods. Benefits expense under the Pension Plan was less than $1 million for each of the years ended December 31, 2016, 2015 and 2014. The accrued benefit liability for the Pension Plan totaled $16 million and $13 million at December 31, 2016 and 2015, respectively, and is included in other long-term liabilities on the consolidated balance sheets. The weighted-average assumptions used for determining the net periodic cost for the year ended December 31, 2016 was a discount rate of 4.5% and the expected long-term rate of return on assets of 7.0%.

12. STOCKHOLDERS' EQUITY

Authorized capital shares of the Company include 400,000,000 shares of capital stock consisting of 300,000,000 shares of common stock and 100,000,000 shares of preferred stock. Each of the aforementioned classes of capital stock has a par value of $0.01 per share. Shares of preferred stock, none of which were outstanding as of December 31, 2016, may be issued in one or more series having such rights, preferences and other provisions as determined by the Board of Directors without approval by the holders of common stock.

On November 6, 2015, the Company adopted an open market repurchase program for up to 10,000,000 shares of the Company's common stock, not to exceed $300 million in repurchases. The repurchase program will expire on the earlier of November 5, 2018, when the maximum number of shares has been repurchased, or when the maximum dollar amount has been expended. During the year ended December 31, 2015, the Company repurchased and retired 532,188 shares at a weighted-average price of $27.31 per share, which is the cumulative number of shares repurchased and retired under this program. No shares were repurchased under this program during the year ended December 31, 2016.

On December 10, 2014, the Company adopted an open market repurchase program for up to 5,000,000 shares of the Company's common stock, not to exceed $150 million in repurchases. This repurchase program expired on December 1, 2015 after the Company repurchased and retired the maximum 5,000,000 shares at a weighted average price of $28.84 per share during the three months ended December 31, 2015.

On December 14, 2011, the Company adopted an open market repurchase program for up to 4,000,000 shares of the Company's common stock, not to exceed $100 million in repurchases. This repurchase program expired on December 13, 2014. During the year ended December 31, 2014, the Company repurchased and retired 175,000 shares at a weighted-average price of $49.72 per share. During the year ended December 31, 2013, the Company repurchased and retired 706,023 shares at a weighted-average price of $38.39 per share. The cumulative number of shares repurchased and retired under this program was 881,023 shares at a weighted-average price of $40.64 per share.

The Company is a holding company which operates through its subsidiaries. The Company's Credit Facility and the indentures governing the senior and senior secured notes contain various covenants under which the assets of the subsidiaries of the Company are subject to certain restrictions relating to, among other matters, dividends and distributions, as referenced in the paragraph below.

With the exception of a special cash dividend of $0.25 per share paid by the Company in December 2012, historically, the Company has not paid any cash dividends. Subject to certain exceptions, the Company's Credit Facility limits the ability of the Company's subsidiaries to pay dividends and make distributions to the Company,

and limits the Company's ability to pay dividends and/or repurchase stock, to an amount not to exceed $200 million in the aggregate plus an additional $25 million in any particular year plus the aggregate amount of proceeds from the exercise of stock options. The indentures governing the senior and senior secured notes also restrict the Company's subsidiaries from, among other matters, paying dividends and making distributions to the Company, which thereby limits the Company's ability to pay dividends and/or repurchase stock. The non-cash dividend of approximately $713 million recorded by the Company during the year ended December 31, 2016 to reflect the distribution of the net assets of QHC was a permitted transaction under the Company's Credit Facility. As of December 31, 2016, under the most restrictive test under these agreements (and subject to certain exceptions), the Company has approximately $318 million remaining available with which to pay permitted dividends and/or repurchase shares of stock or its senior and senior secured notes.

The following schedule discloses the effects of changes in the Company's ownership interest in its less-than-wholly-owned subsidiaries on Community Health Systems, Inc. stockholders' equity (in millions):

	Year Ended December 31,		
	2016	2015	2014
Net (loss) income attributable to Community Health Systems, Inc. stockholders	$ (1,721)	$ 158	$ 92
Transfers from the noncontrolling interests:			
Net decrease in Community Health Systems, Inc.paid-in-capital for purchase of subsidiary partnership interests	(9)	(16)	(2)
Net transfers from the noncontrolling interests	(9)	(16)	(2)
Change to Community Health Systems, Inc. stockholders' equity from net (loss) income attributable to Community Health Systems, Inc. stockholders and transfers to noncontrolling interests	$ (1,730)	$ 142	$ 90

13. EARNINGS PER SHARE

The following table sets forth the components of the numerator and denominator for the computation of basic and diluted earnings per share for (loss) income from continuing operations, discontinued operations and net (loss) income attributable to Community Health Systems, Inc. common stockholders (in millions, except share data):

	Year Ended December 31,		
	2016	2015	2014
Numerator:			
(Loss) income from continuing operations, net of taxes	$ (1,611)	$ 295	$ 260
Less: Income from continuing operations attributable to noncontrolling interests, net of taxes	95	101	111
(Loss) income from continuing operations attributable to Community Health Systems, Inc. common stockholders — basic and diluted	$ (1,706)	$ 194	$ 149
Loss from discontinued operations, net of taxes	$ (15)	$ (36)	$ (57)
Less: Loss from discontinued operations attributable to noncontrolling interests, net of taxes	-	-	-
Loss from discontinued operations attributable to Community Health Systems, Inc. common stockholders — basic and diluted	$ (15)	$ (36)	$ (57)
Denominator:			
Weighted-average number of shares outstanding — basic	110,730,971	114,454,674	111,579,088
Effect of dilutive securities:			
Restricted stock awards	-	449,961	377,190
Employee stock options	-	357,188	578,395
Other equity-based awards	-	10,581	14,647
Weighted-average number of shares outstanding — diluted	110,730,971	115,272,404	112,549,320

The Company generated a loss from continuing operations attributable to Community Health Systems, Inc. common stockholders for the year ended December 31, 2016, so the effect of dilutive securities is not considered because their effect would be antidilutive. If the Company had generated income from continuing operations during the year ended December 31, 2016, the effect of restricted stock awards, employee stock options, and other equity-based awards on the diluted shares calculation would have been an increase in shares of 331,518 shares.

	Year Ended December 31,		
	2016	2015	2014
Dilutive securities outstanding not included in the computation of earnings per share because their effect is antidilutive:			
Employee stock options and restricted stock awards	2,554,627	255,564	472,570

14. EQUITY INVESTMENTS

As of December 31, 2016, the Company owned equity interests of 38.0% in three hospitals in Macon, Georgia, in which HCA Holdings, Inc. ("HCA") owns the majority interest. On April 29, 2016, the Company sold its unconsolidated minority equity interests in Valley Health System, LLC, a joint venture with Universal Health Systems, Inc. ("UHS") representing four hospitals in Las Vegas, Nevada, in which the Company owned a 27.5% interest, and in Summerlin Hospital Medical Center, LLC, a joint venture with UHS representing one hospital in Las Vegas, Nevada, in which the Company owned a 26.1% interest. The Company received $403 million in cash in return for the sale of its equity interests and, as a result, recognized a gain of approximately $94 million on the sale of investments in unconsolidated affiliates during the year ended December 31, 2016.

Summarized combined financial information for these unconsolidated entities in the periods in which the Company owned these equity interests is as follows (in millions):

	December 31,	
	2016	2015
Current assets	$ 54	$ 283
Noncurrent assets	112	838
Total assets	$ 166	$ 1,121
Current liabilities	$ 17	$ 111
Noncurrent liabilities	2	2
Members' equity	147	1,008
Total liabilities and equity	$ 166	$ 1,121

	Year Ended December 31,		
	2016	2015	2014
Revenues	$ 731	$ 1,494	$ 1,368
Operating costs and expenses	602	1,287	1,184
Income from continuing operations before taxes	129	207	184

The summarized financial information was derived from the financial information provided to the Company by those unconsolidated entities.

In March 2005, the Company began purchasing items, primarily medical supplies, medical equipment and pharmaceuticals, under an agreement with HealthTrust Purchasing Group, L.P. ("HealthTrust"), a group purchasing organization in which the Company is a noncontrolling partner. As of December 31, 2016, the Company had a 23.1% ownership interest in HealthTrust.

On December 31, 2016, the Company sold 80% of its ownership interest in the legal entity that owned and operated its home care agency business. As part of the divestiture of its controlling interest in the home care agency business, the Company recorded an equity method investment representing its remaining 20% ownership at a fair value of $32 million.

The Company's investment in all of its unconsolidated affiliates was $177 million and $479 million at December 31, 2016 and December 31, 2015, respectively, and is included in other assets, net in the accompanying consolidated balance sheets. Included in the Company's results of operations is the Company's equity in pre-tax earnings from all of its investments in unconsolidated affiliates, which was $43 million, $63 million and $48 million for the years ended December 31, 2016, 2015 and 2014, respectively.

15. SEGMENT INFORMATION

The Company operates in two distinct operating segments, represented by hospital operations (which includes its general acute care hospitals and related healthcare entities that provide inpatient and outpatient healthcare services) and home care agency operations (which provide in-home outpatient care).

Only the hospital operations segment meets the criteria as a separate reportable segment. The financial information for the home care agency segment does not meet the quantitative thresholds for a separate identifiable reportable segment and is combined into the corporate and all other reportable segment. On December 31, 2016, the Company sold 80% of its ownership interest in the home care division.

The distribution between reportable segments of the Company's net operating revenues and (loss) income from continuing operations before income taxes, expenditures for segment assets and total assets is summarized in the following tables (in millions):

	Year Ended December 31,		
	2016	2015	2014
Net operating revenues:			
Hospital operations	$ 18,210	$ 19,234	$ 18,399
Corporate and all other	228	203	240
Total	$ 18,438	$ 19,437	$ 18,639
(Loss) income from continuing operations before income taxes:			
Hospital operations	$ (1,418)	$ 767	$ 772
Corporate and all other	(297)	(356)	(430)
Total	$ (1,715)	$ 411	$ 342
Expenditures for segment assets:			
Hospital operations	$ 727	$ 915	$ 817
Corporate and all other	17	38	36
Total	$ 744	$ 953	$ 853

	December 31,	
	2016	2015
Total assets:		
Hospital operations	$ 20,582	$ 25,005
Corporate and all other	1,362	1,590
Total	$ 21,944	$ 26,595

16. OTHER COMPREHENSIVE INCOME

The following tables present information about items reclassified out of accumulated other comprehensive (loss) income by component for the years ended December 31, 2016 and 2015 (in millions, net of tax):

	Change in Fair Value of Interest Rate Swaps	Change in Fair Value of Available for Sale Securities	Change in Unrecognized Pension Cost Components	Accumulated Other Comprehensive Income (Loss)
Balance as of December 31, 2015	$ (48)	$ 1	$ (26)	$ (73)
Other comprehensive loss before reclassifications	(17)	2	1	(14)
Amounts reclassified from accumulated other comprehensive income	34	(13)	2	23
Net current-period other comprehensive (loss) income	17	(11)	3	9
AOCI distributed to QHC in spin-off	-	-	2	2
Balance as of December 31, 2016	$ (31)	$ (10)	$ (21)	$ (62)

	Change in Fair Value of Interest Rate Swaps	Change in Fair Value of Available for Sale Securities	Change in Unrecognized Pension Cost Components	Accumulated Other Comprehensive Income (Loss)
Balance as of December 31, 2014	$ (43)	$ 7	$ (27)	$ (63)
Other comprehensive loss before reclassifications	(32)	(6)	(1)	(39)
Amounts reclassified from accumulated other comprehensive income	27	-	2	29
Net current-period other comprehensive (loss) income	(5)	(6)	1	(10)
Balance as of December 31, 2015	$ (48)	$ 1	$ (26)	$ (73)

The following tables present a subtotal for each significant reclassification to net (loss) income out of AOCL and the line item affected in the accompanying consolidated statements of (loss) income for the years ended December 31, 2016 and 2015 (in millions):

Details about accumulated other comprehensive income (loss) components	Amount reclassified from AOCL Year Ended December 31, 2016	Affected line item in the statement where net (loss) income is presented
Gains and losses on cash flow hedges		
Interest rate swaps	$ (54)	Interest expense, net
	20	Tax benefit
	$ (34)	Net of tax
Amortization of defined benefit pension items		
Prior service costs	$ (2)	Salaries and benefits
Actuarial losses	(1)	Salaries and benefits
	(3)	Total before tax
	1	Tax benefit
	$ (2)	Net of tax

Details about accumulated other comprehensive income (loss) components	Amount reclassified from AOCL Year Ended December 31, 2015	Affected line item in the statement where net income is presented
Gains and losses on cash flow hedges		
Interest rate swaps	$ (42)	Interest expense, net
	15	Tax benefit
	$ (27)	Net of tax
Amortization of defined benefit pension items		
Prior service costs	$ (1)	Salaries and benefits
Actuarial losses	(2)	Salaries and benefits
	(3)	Total before tax
	1	Tax benefit
	$ (2)	Net of tax

17. COMMITMENTS AND CONTINGENCIES

Construction and Other Capital Commitments. Pursuant to a hospital purchase agreement in effect as of December 31, 2016, the Company has agreed to build a replacement facility in York, Pennsylvania. The estimated construction cost, including equipment costs, is approximately $125 million. This project is required to be completed in 2017 and approximately $17 million has been expended through December 31, 2016 related to this replacement hospital. Pursuant to a hospital purchase agreement in effect as of December 31, 2016, the Company is required to build replacement facilities in La Porte and Knox, Indiana. The estimated construction costs, including equipment costs, are approximately $125 million and $15 million, respectively. No costs have

been incurred to date on those facilities. In addition, under other purchase agreements outstanding at December 31, 2016, the Company has committed to spend approximately $464 million for costs such as capital improvements, equipment, selected leases and physician recruiting. These commitments are required to be fulfilled generally over a five to seven year period after acquisition. Through December 31, 2016, the Company has spent approximately $209 million related to these commitments.

Physician Recruiting Commitments. As part of its physician recruitment strategy, the Company provides income guarantee agreements to certain physicians who agree to relocate to its communities and commit to remain in practice there. Under such agreements, the Company is required to make payments to the physicians in excess of the amounts they earned in their practice up to the amount of the income guarantee. These income guarantee periods are typically for 12 months. Such payments are recoverable by the Company from physicians who do not fulfill their commitment period, which is typically three years, to the respective community. At December 31, 2016, the maximum potential amount of future payments under these guarantees in excess of the liability recorded is $30 million.

Professional Liability Claims. As part of the Company's business of owning and operating hospitals, it is subject to legal actions alleging liability on its part. The Company accrues for losses resulting from such liability claims, as well as loss adjustment expenses that are out-of-pocket and directly related to such liability claims. These direct out-of-pocket expenses include fees of outside counsel and experts. The Company does not accrue for costs that are part of corporate overhead, such as the costs of in-house legal and risk management departments. The losses resulting from professional liability claims primarily consist of estimates for known claims, as well as estimates for incurred but not reported claims. The estimates are based on specific claim facts, historical claim reporting and payment patterns, the nature and level of hospital operations and actuarially determined projections. The actuarially determined projections are based on the Company's actual claim data, including historic reporting and payment patterns which have been gathered over an approximate 20-year period. As discussed below, since the Company purchases excess insurance on a claims-made basis that transfers risk to third-party insurers, the liability it accrues does include an amount for the losses covered by its excess insurance. The Company also records a receivable for the expected reimbursement of losses covered by excess insurance. Since the Company believes that the amount and timing of its future claims payments are reliably determinable, it discounts the amount accrued for losses resulting from professional liability claims using the risk-free interest rate corresponding to the timing of expected payments.

The net present value of the projected payments was discounted using a weighted-average risk-free rate of 1.8%, 1.6% and 1.7% in 2016, 2015 and 2014, respectively. This liability is adjusted for new claims information in the period such information becomes known. The Company's estimated liability for professional and general liability claims was $788 million and $901 million as of December 31, 2016 and 2015, respectively. The estimated undiscounted claims liability was $843 million and $949 million as of December 31, 2016 and 2015, respectively. The current portion of the liability for professional and general liability claims was $130 million and $156 million as of December 31, 2016 and 2015, respectively, and is included in other accrued liabilities in the accompanying consolidated balance sheets, with the long-term portion recorded in other long-term liabilities. Professional malpractice expense includes the losses resulting from professional liability claims and loss adjustment expense, as well as paid excess insurance premiums, and is presented within other operating expenses in the accompanying consolidated statements of (loss) income.

The Company's processes for obtaining and analyzing claims and incident data are standardized across all of its hospitals and have been consistent for many years. The Company monitors the outcomes of the medical care services that it provides and for each reported claim, the Company obtains various information concerning the facts and circumstances related to that claim. In addition, the Company routinely monitors current key statistics and volume indicators in its assessment of utilizing historical trends. The average lag period between claim occurrence and payment of a final settlement is between four and five years, although the facts and circumstances

of individual claims could result in the timing of such payments being different from this average. Since claims are paid promptly after settlement with the claimant is reached, settled claims represent approximately 1.0% of the total liability at the end of any period.

For purposes of estimating its individual claim accruals, the Company utilizes specific claim information, including the nature of the claim, the expected claim amount, the year in which the claim occurred and the laws of the jurisdiction in which the claim occurred. Once the case accruals for known claims are determined, information is stratified by loss layers and retentions, accident years, reported years, geography and claims relating to the acquired HMA hospitals versus claims relating to the Company's other hospitals. Several actuarial methods are used against this data to produce estimates of ultimate paid losses and reserves for incurred but not reported claims. Each of these methods uses company-specific historical claims data and other information. This company-specific data includes information regarding the Company's business, including historical paid losses and loss adjustment expenses, historical and current case loss reserves, actual and projected hospital statistical data, a variety of hospital census information, employed physician information, professional liability retentions for each policy year, geographic information and other data.

Based on these analyses the Company determines its estimate of the professional liability claims. The determination of management's estimate, including the preparation of the reserve analysis that supports such estimate, involves subjective judgment of the management. Changes in reserving data or the trends and factors that influence reserving data may signal fundamental shifts in the Company's future claim development patterns or may simply reflect single-period anomalies. Even if a change reflects a fundamental shift, the full extent of the change may not become evident until years later. Moreover, since the Company's methods and models use different types of data and the Company selects its liability from the results of all of these methods, it typically cannot quantify the precise impact of such factors on its estimates of the liability. Due to the Company's standardized and consistent processes for handling claims and the long history and depth of company-specific data, the Company's methodologies have produced reliably determinable estimates of ultimate paid losses.

The Company is primarily self-insured for professional liability claims; however, the Company obtains excess insurance that transfers the risk of loss to a third-party insurer for claims in excess of self-insured retentions. The Company's excess insurance is underwritten on a claims-made basis. For claims reported prior to June 1, 2002, substantially all of the Company's professional and general liability risks were subject to a less than $1 million per occurrence self-insured retention and for claims reported from June 1, 2002 through June 1, 2003, these self-insured retentions were $2 million per occurrence. Substantially all claims reported after June 1, 2003 and before June 1, 2005 are self-insured up to $4 million per claim. Substantially all claims reported on or after June 1, 2005 and before June 1, 2014 are self-insured up to $5 million per claim. Substantially all claims reported on or after June 1, 2014 are self-insured up to $10 million per claim. Management on occasion has selectively increased the insured risk at certain hospitals based upon insurance pricing and other factors and may continue that practice in the future. Excess insurance for all hospitals has been purchased through commercial insurance companies and generally covers the Company for liabilities in excess of the self-insured retentions. The excess coverage consists of multiple layers of insurance, the sum of which totals up to $95 million per occurrence and in the aggregate for claims reported on or after June 1, 2003, up to $145 million per occurrence and in the aggregate for claims reported on or after January 1, 2008, up to $195 million per occurrence and in the aggregate for claims reported on or after June 1, 2010, and up to $220 million per occurrence and in the aggregate for claims reported on or after June 1, 2015. In addition, for integrated occurrence malpractice claims, there is an additional $50 million of excess coverage for claims reported on or after June 1, 2014 and an additional $75 million of excess coverage for claims reported on or after June 1, 2015. For certain policy years prior to June 1, 2014, if the first aggregate layer of excess coverage becomes fully utilized, then the Company's self-insured retention will increase to $10 million per claim for any subsequent claims in that policy year until the Company's total aggregate coverage is met.

Effective June 1, 2014, the hospitals acquired from HMA were insured on a claims-made basis as described above and through commercial insurance companies as described above for substantially all claims reported on or after June 1, 2014 except for physician-related claims with an occurrence date prior to June 1, 2014. Prior to June 1, 2014, the former HMA hospitals obtained insurance coverage through a wholly-owned captive insurance subsidiary and a risk retention group subsidiary which are domiciled in the Cayman Islands and South Carolina, respectively. Those insurance subsidiaries, which are collectively referred to as the "Insurance Subsidiaries," provided (i) claims-made coverage to all of the former HMA hospitals and (ii) occurrence-basis coverage to most of the physicians employed by the former HMA hospitals. The employed physicians not covered by the Insurance Subsidiaries generally maintained claims-made policies with unrelated third party insurance companies. To mitigate the exposure of the program covering the former HMA hospitals and other healthcare facilities, the Insurance Subsidiaries bought claims-made reinsurance policies from unrelated third parties for claims above self-retention levels of $10 million or $15 million per claim, depending on the policy year.

Effective January 1, 2008, the hospitals acquired from Triad were insured on a claims-made basis as described above and through commercial insurance companies as described above for substantially all claims occurring on or after January 1, 2002 and reported on or after January 1, 2008. Substantially all losses for the former Triad hospitals in periods prior to May 1, 1999 were insured through a wholly-owned insurance subsidiary of HCA, Triad's owner prior to that time, and excess loss policies maintained by HCA. HCA has agreed to indemnify the former Triad hospitals in respect of claims covered by such insurance policies arising prior to May 1, 1999. After May 1, 1999 through December 31, 2006, the former Triad hospitals obtained insurance coverage on a claims incurred basis from HCA's wholly-owned insurance subsidiary, with excess coverage obtained from other carriers that is subject to certain deductibles. Effective for claims incurred after December 31, 2006, Triad began insuring its claims from $1 million to $5 million through its wholly-owned captive insurance company, replacing the coverage provided by HCA. Substantially all claims occurring during 2007 were self-insured up to $10 million per claim.

Legal Matters. The Company is a party to various legal, regulatory and governmental proceedings incidental to its business. Based on current knowledge, management does not believe that loss contingencies arising from pending legal, regulatory and governmental matters, including the matters described herein, will have a material adverse effect on the consolidated financial position or liquidity of the Company. However, in light of the inherent uncertainties involved in pending legal, regulatory and governmental matters, some of which are beyond the Company's control, and the very large or indeterminate damages sought in some of these matters, an adverse outcome in one or more of these matters could be material to the Company's results of operations or cash flows for any particular reporting period.

With respect to all legal, regulatory and governmental proceedings, the Company considers the likelihood of a negative outcome. If the Company determines the likelihood of a negative outcome with respect to any such matter is probable and the amount of the loss can be reasonably estimated, the Company records an accrual for the estimated loss for the expected outcome of the matter. If the likelihood of a negative outcome with respect to material matters is reasonably possible and the Company is able to determine an estimate of the possible loss or a range of loss, whether in excess of a related accrued liability or where there is no accrued liability, the Company discloses the estimate of the possible loss or range of loss. However, the Company is unable to estimate a possible loss or range of loss in some instances based on the significant uncertainties involved in, and/or the preliminary nature of, certain legal, regulatory and governmental matters.

In connection with the spin-off of QHC, the Company agreed to indemnify QHC for certain liabilities relating to outcomes or events occurring prior to April 29, 2016, the closing date of the spin-off, including (i) certain claims and proceedings that were known to be outstanding at or prior to the consummation of the spin-off and involved multiple facilities and (ii) certain claims, proceedings and investigations by governmental authorities or private plaintiffs related to activities occurring at or related to QHC's healthcare facilities prior to the closing

date of the spin-off, but only to the extent, in the case of clause (ii), that such claims are covered by insurance policies maintained by the Company, including professional liability and employer practices. In this regard, the Company continues to be responsible for HMA Legal Matters (as defined below) covered by the CVR agreement that relate to QHC's business, and any amounts payable by the Company in connection therewith will continue to reduce the amount payable by the Company in respect of the CVRs. Notwithstanding the foregoing, the Company is not required to indemnify QHC in respect of any claims or proceedings arising out of or related to the business operations of Quorum Health Resources, LLC at any time or QHC's compliance with the corporate integrity agreement. Subsequent to the spin-off of QHC, the Office of the Inspector General provided the Company with written assurance that it would look solely at QHC for compliance for its facilities under the Company's Corporate Integrity Agreement; however, the Office of the Inspector General declined to enter into a separate corporate integrity agreement with QHC.

HMA Legal Matters and Related CVR

The CVR agreement entitles the holder to receive a one-time cash payment of up to $1.00 per CVR, subject to downward adjustment based on the final resolution of certain litigation, investigations (whether formal or informal, including subpoenas), or other actions or proceedings related to HMA or its affiliates existing on or prior to July 29, 2013 (the date of the Company's merger agreement with HMA) as more specifically provided in the CVR agreement (all such matters are referred to as the "HMA Legal Matters"), which include, but are not limited to, investigation and litigation matters as previously disclosed by HMA in public filings with the SEC and/or as described in more detail below. The adjustment reducing the ultimate amount paid to holders of the CVR is determined based on the amount of losses incurred by the Company in connection with the HMA Legal Matters as more specifically provided in the CVR agreement, which generally includes the amount paid for damages, costs, fees and expenses (including, without limitation, attorneys' fees and expenses), and all fines, penalties, settlement amounts, indemnification obligations and other liabilities (all such losses are referred to as "HMA Losses"). If the aggregate amount of HMA Losses exceeds a deductible of $18 million, then the amount payable in respect of each CVR shall be reduced (but not below zero) by an amount equal to the quotient obtained by dividing: (a) the product of (i) all losses in excess of the deductible and (ii) 90%; by (b) the number of CVRs outstanding on the date on which final resolution of the existing litigation occurs. There are 264,544,053 CVRs outstanding as of the date hereof. If total HMA Losses (including HMA Losses that have occurred to date as noted in the table below) exceed approximately $312 million, then the holders of the CVRs will not be entitled to any payment in respect of the CVRs.

The CVRs do not have a finite payment date. Any payments the Company makes under the CVR agreement will be payable within 60 days after the final resolution of the HMA Legal Matters. The CVRs are unsecured obligations of CHS and all payments under the CVRs will be subordinated in right of payment to the prior payment in full of all of the Company's senior obligations (as defined in the CVR agreement), which include outstanding indebtedness of the Company (subject to certain exceptions set forth in the CVR agreement) and the HMA Losses. The CVR agreement permits the Company to acquire all or some of the CVRs, whether in open market transactions, private transactions or otherwise. As of December 31, 2016, the Company had acquired no CVRs.

The following table represents the impact of legal expenses paid or incurred and settlements paid or deemed final as of December 31, 2016 and 2015 on the amounts owed to CVR holders (in millions):

		Allocation of Expenses and Settlements Paid		
	Total Expenses and Settlement Cost	Deductible	CHS Responsibility at 10%	Reduction to Amount Owed to CVR Holders at 90%
As of December 31, 2014	$ 24	$ 18	$ -	$ 6
Settlements paid	26	-	3	23
Legal expenses incurred and/or paid during the year ended December 31, 2015	8	-	1	7
As of December 31, 2015	$ 58	$ 18	$ 4	$ 36
Settlements paid	1	-	-	1
Legal expenses incurred and/or paid during the year ended December 31, 2016	3	-	-	3
As of December 31, 2016	$ 62	$ 18	$ 4	$ 40

Amounts owed to CVR holders are dependent on the ultimate resolution of the HMA Legal Matters and determination of HMA Losses incurred. The settlement of any or all of the claims and expenses incurred on behalf of the Company in defending itself will (subject to the deductible) reduce the amounts owed to the CVR holders.

Underlying the CVR agreement are a number of claims included in the HMA Legal Matters asserted against HMA. The Company has recorded a liability in connection with those claims as part of the acquired assets and liabilities at the date of acquisition pursuant to the provisions of Financial Accounting Standards Board Accounting Standards Codification Topic 805 "Business Combinations." For the estimate of the Company's liabilities associated with the HMA Legal Matters that will be covered by the CVR and were not previously accrued by HMA, the Company recorded a liability of $284 million as part of the acquisition accounting for the HMA merger based on the Company's estimate of fair value of such liabilities as of the date of acquisition. There was a $9 million decrease in the liability during the year ended December 31, 2016 and the fair value of such liabilities of $252 million as of December 31, 2016 is recorded in other long-term liabilities on the accompanying consolidated balance sheet. As of December 31, 2016, there is currently no accrual recorded for the probable contingency claims underlying the CVR agreement. The estimated liability for probable contingency claims underlying the CVR agreement that was previously recorded by HMA, and reflected in the purchase accounting for HMA as an acquired liability has been settled and was paid during the year ended December 31, 2015. In addition, although legal fees are not included in the amounts currently accrued, such legal fees are taken into account in determining HMA Losses under the CVR agreement. Certain significant HMA Legal Matters underlying these liabilities are discussed in greater detail below.

HMA Matters Recorded at Fair Value

Medicare/Medicaid Billing Lawsuits

Beginning during the week of December 16, 2013, eleven qui tam lawsuits filed by private individuals against HMA were unsealed in various United States district courts. The United States has elected to intervene in all or part of eight of these matters; namely U.S. ex rel. Craig Brummer v. Health Management Associates, Inc. et al. (Middle District Georgia) ("Brummer"); U.S. ex rel. Ralph D. Williams v. Health Management Associates, Inc. et al. (Middle District Georgia) ("Williams"); U.S. ex rel. Scott H. Plantz, M.D. et al. v. Health Management Associates,

Inc., et al. (Northern District Illinois) ("Plantz"); U.S. ex rel. Thomas L. Mason, M.D. et al. v. Health Management Associates, Inc. et al. (Western District North Carolina) ("Mason"); U.S. ex rel. Jacqueline Meyer, et al. v. Health Management Associates, Inc., Gary Newsome et al. ("Jacqueline Meyer") (District of South Carolina); U.S. ex rel. George Miller, et al. v. Health Management Associates, Inc. (Eastern District of Pennsylvania) ("Miller"); U.S. ex rel. Bradley Nurkin v. Health Management Associates, Inc. et al. (Middle District of Florida) ("Nurkin"); and U.S. ex rel. Paul Meyer v. Health Management Associates, Inc. et al. (Southern District Florida) ("Paul Meyer"). The United States has elected to intervene with respect to allegations in these cases that certain HMA hospitals inappropriately admitted patients and then submitted reimbursement claims for treating those individuals to federal healthcare programs in violation of the False Claims Act or that certain HMA hospitals had inappropriate financial relationships with physicians which violated the Stark law, the Anti-Kickback Statute, and the False Claims Act. Certain of these complaints also allege the same actions violated various state laws which prohibit false claims. The United States has declined to intervene in three of the eleven matters, namely U.S. ex rel. Anita France, et al. v. Health Management Associates, Inc. (Middle District Florida) ("France") which involved allegations of wrongful billing and was settled; U.S. ex rel. Sandra Simmons v. Health Management Associates, Inc. et al. (Eastern District Oklahoma) ("Simmons") which alleges unnecessary surgery by an employed physician and which was settled as to all allegations except alleged wrongful termination; and U.S. ex rel. David Napoliello, M.D. v. Health Management Associates, Inc. (Middle District Florida) ("Napoliello") which alleges inappropriate admissions. On April 3, 2014, the Multi District Litigation Panel ordered the transfer and consolidation for pretrial proceedings of the eight intervened cases, plus the Napoliello matter, to the District of the District of Columbia under the name In Re: Health Management Associates, Inc. Qui Tam Litigation. On June 2, 2014, the court entered a stay of this matter until October 6, 2014, which was subsequently extended until February 27, 2015, May 27, 2015, September 25, 2015, January 25, 2016, May 25, 2016, September 26, 2016, December 27, 2016 and now until April 27, 2017. The Company intends to defend against the allegations in these matters, but also continues to cooperate with the government in the ongoing investigation of these allegations. The Company has been in discussions with the Civil Division of the United States Department of Justice ("DOJ") regarding the resolutions of these matters. During the first quarter of 2015, the Company was informed that the Criminal Division continues to investigate former executive-level employees of HMA, and continues to consider whether any HMA entities should be held criminally liable for the acts of the former HMA employees. The Company is voluntarily cooperating with these inquiries and has not been served with any subpoenas or other legal process.

Other Probable Contingencies

Lopez v. Yakima Regional Medial & Cardiac Center and Toppenish Community Hospital. This class action lawsuit arose out of alleged conduct at these hospitals prior to the HMA acquisition. The suit alleges the hospitals' charity care policies did not comply with Washington state law. The trial court has certified a class and granted partial summary judgment in favor of the plaintiffs. This matter has now been settled. The Company has recorded an estimate of the probable liability at December 31, 2016 based on the settlement of this matter.

Becker v. Community Health Systems, Inc. d/b/a Community Health Systems Professional Services Corporation d/b/a Community Health Systems d/b/a Community Health Systems PSC, Inc. d/b/a Rockwood Clinic P.S. and Rockwood Clinic, P.S. (Superior Court, Spokane, Washington). This suit was filed on February 29, 2012, by a former chief financial officer at Rockwood Clinic in Spokane, Washington. Becker claims he was wrongfully terminated for allegedly refusing to certify a budget for Rockwood Clinic in 2012. On February 29, 2012, he also filed an administrative complaint with the Department of Labor, Occupational Safety and Health Administration alleging that he is a whistleblower under Sarbanes-Oxley, which was dismissed by the agency and was appealed to an administrative law judge for a hearing that occurred on January 19-26, 2016. In a decision dated November 9, 2016, the law judge awarded Becker approximately $1.9 million for front pay, back pay and emotional damages with attorney fees to be later determined. The Company has appealed the award to the Administrative Review Board and briefing is currently underway. At a hearing on July 27, 2012, the trial

court dismissed Community Health Systems, Inc. from the state case and subsequently certified the state case for an interlocutory appeal of the denial to dismiss his employer and the management company. The appellate court accepted the interlocutory appeal, and it was argued on April 30, 2014. On August 14, 2014, the court denied the Company's appeal. On October 20, 2014, the Company filed a petition to review the denial with the Washington Supreme Court. The appeal was accepted and oral argument was heard on June 9, 2015. On September 15, 2015, the court denied the Company's appeal and remanded to the trial court; a previous trial setting of September 12, 2016 has been vacated and not reset. The Company continues to vigorously defend these actions.

Summary of Recorded Amounts

The table below presents a reconciliation of the beginning and ending liability balances (in millions) during the years ended December 31, 2016 and 2015, with respect to the Company's fair value determination in connection with HMA Legal Matters that were not previously accrued by HMA, the estimated liability in connection with HMA legal matters that were previously recorded by HMA as a probable contingency, and the remaining contingencies of the Company in respect of which an accrual has been recorded. In addition, future legal fees (which are expensed as incurred) and costs related to possible indemnification and criminal investigation matters associated with the HMA Legal Matters have not been accrued or included in the table below. Furthermore, although not accrued, such costs, if incurred, will be taken into account in determining the total amount of reductions applied to the amounts owed to CVR holders.

	CVR-Related Liability at Fair Value	CVR-Related Liability for Probable Contingencies	Other Probable Contingencies
Balance as of December 31, 2014	$ 265	$ 29	$ 125
Expense (income)	4	(12)	20
Cash payments	(8)	(17)	(135)
Balance as of December 31, 2015	$ 261	$ -	$ 10
(Income) expense	(8)	-	14
Reserve for insured claim	-	-	1
Cash payments	(1)	-	(11)
Balance as of December 31, 2016	$ 252	$ -	$ 14

With respect to the "Other Probable Contingencies" referenced in the chart above, in accordance with applicable accounting guidance, the Company establishes a liability for litigation, regulatory and governmental matters for which, based on information currently available, the Company believes that a negative outcome is known or is probable and the amount of the loss is reasonably estimable. For all such matters (whether or not discussed in this contingencies footnote), such amounts have been recorded in other accrued liabilities on the consolidated balance sheet and are included in the table above in the "Other Probable Contingencies" column. Due to the uncertainties and difficulty in predicting the ultimate resolution of these contingencies, the actual amount could differ from the estimated amount reflected as a liability on the consolidated balance sheet.

In the aggregate, attorneys' fees and other costs incurred but not included in the table above related to probable contingencies, and CVR-related contingencies accounted for at fair value, totaled $4 million and $9 million for the years ended December 31, 2016 and 2015, respectively, and are included in other operating expenses in the accompanying consolidated statements of (loss) income.

Matters for which an Outcome Cannot be Assessed

For the legal matters below, the Company cannot at this time assess what the outcome may be and is further unable to determine any estimate of loss or range of loss. Because the matters below are at a preliminary stage and other factors, there are not sufficient facts available to make these assessments.

Class Action Shareholder Federal Securities Cases. Three purported class action cases have been filed in the United States District Court for the Middle District of Tennessee; namely, Norfolk County Retirement System v. Community Health Systems, Inc., et al., filed May 9, 2011; De Zheng v. Community Health Systems, Inc., et al., filed May 12, 2011; and Minneapolis Firefighters Relief Association v. Community Health Systems, Inc., et al., filed June 21, 2011. All three seek class certification on behalf of purchasers of the Company's common stock between July 27, 2006 and April 11, 2011 and allege that misleading statements resulted in artificially inflated prices for the Company's common stock. In December 2011, the cases were consolidated for pretrial purposes and NYC Funds and its counsel were selected as lead plaintiffs/lead plaintiffs' counsel. In lieu of ruling on the Company's motion to dismiss, the court permitted the plaintiffs to file a first amended consolidated class action complaint, which was filed on October 5, 2015. The Company's motion to dismiss was filed on November 4, 2015 and oral argument was held on April 11, 2016. The Company's motion to dismiss was granted on June 16, 2016 and on June 27, 2016, the plaintiffs filed a notice of appeal to the Sixth Circuit Court of Appeals. The matter is fully briefed and the Company is waiting on the setting of a date for oral argument. The Company believes this consolidated matter is without merit and will vigorously defend this case.

Other Matters

Shareholder Derivative Actions. Three purported shareholder derivative actions have also been filed in the United States District Court for the Middle District of Tennessee; Plumbers and Pipefitters Local Union No. 630 Pension Annuity Trust Fund v. Wayne T. Smith, et al., filed May 24, 2011; Roofers Local No. 149 Pension Fund v. Wayne T. Smith, et al., filed June 21, 2011; and Lambert Sweat v. Wayne T. Smith, et al., filed October 5, 2011. These three cases allege breach of fiduciary duty arising out of allegedly improper inpatient admission practices, mismanagement, waste and unjust enrichment. These cases have been consolidated into a single, consolidated action. The plaintiffs filed an operative amended derivative complaint in these three consolidated actions on March 15, 2012. The Company's motion to dismiss was argued on June 13, 2013. On September 27, 2013, the court issued an order granting in part and denying in part the Company's motion to dismiss. This case was settled pursuant a final order entered on January 17, 2017. Pursuant to the terms of the settlement, the Company is required to adopt and maintain for a specified period certain corporate governance measures. For more information, see the order and stipulation of settlement filed as Exhibit 99.2 to this Annual Report on Form 10-K.

18. SUBSEQUENT EVENTS

The Company has evaluated all material events occurring subsequent to the balance sheet date for events requiring disclosure or recognition in the consolidated financial statements.

As noted above, a final order approving the terms of settlement of the shareholder derivative action was entered on January 17, 2017. In January 2017, the Company received $40 million of proceeds, which is net of attorneys' costs, from the settlement of this litigation. These proceeds were paid out of the Company's directors and officers' insurance policy.

On February 16, 2017, the Company signed a definitive agreement for the sale of eight hospitals and their associated assets to subsidiaries of Steward Health, Inc. The facilities included in this transaction are Easton Hospital (254 licensed beds) in Easton, Pennsylvania, Sharon Regional Health System (258 licensed beds) in Sharon, Pennsylvania, Northside Medical Center (355 licensed beds) in Youngstown, Ohio, Trumbull Memorial Hospital (311 licensed beds) in Warren, Ohio, Hillside Rehabilitation Hospital (69 licensed beds) in Warren, Ohio, Wuesthoff Health System – Rockledge (298 licensed beds) in Rockledge, Florida, Wuesthoff Health System – Melbourne (119 licensed beds) in Melbourne, Florida and Sebastian River Medical Center (154 licensed beds) in Sebastian, Florida.

19. QUARTERLY FINANCIAL DATA (UNAUDITED)

	Quarter				
	1st	2nd	3rd	4th	Total (2)
	(in millions, except share and per share data)				
Year ended December 31, 2016:					
Net operating revenues	$ 4,999	$ 4,590	$ 4,380	$ 4,469	$ 18,438
Income (loss) from continuing operations before income taxes	63	(1,543)	(83)	(152)	(1,715)
Income (loss) from continuing operations	37	(1,405)	(54)	(189)	(1,611)
Loss from discontinued operations	(1)	(1)	(2)	(9)	(15)
Net income (loss) attributable to Community Health Systems, Inc.	$ 11	$ (1,432)	$ (79)	$ (220)	$ (1,721)
Basic earnings (loss) per share attributable to Community Health Systems, Inc. common stockholders(1):					
Continuing operations	$ 0.11	$ (12.90)	$ (0.69)	$ (1.91)	$ (15.41)
Discontinued operations	(0.01)	(0.01)	(0.02)	(0.09)	(0.13)
Net income (loss)	$ 0.10	$ (12.91)	$ (0.71)	$ (1.99)	$ (15.54)
Diluted earnings (loss) per share attributable to Community Health Systems, Inc. common stockholders(1):					
Continuing operations	$ 0.11	$ (12.90)	$ (0.69)	$ (1.91)	$ (15.41)
Discontinued operations	(0.01)	(0.01)	(0.02)	(0.09)	(0.13)
Net income (loss)	$ 0.10	$ (12.91)	$ (0.71)	$ (1.99)	$ (15.54)
Weighted-average number of shares outstanding:					
Basic	110,247,867	110,879,285	110,888,040	110,905,052	110,730,971
Diluted	110,309,372	110,879,285	110,888,040	110,905,052	110,730,971
Year ended December 31, 2015:					
Net operating revenues	$ 4,911	$ 4,882	$ 4,846	$ 4,798	$ 19,437
Income (loss) from continuing operations before income taxes	168	214	121	(91)	411
Income (loss) from continuing operations	112	140	83	(40)	295
Loss from discontinued operations	(13)	(6)	(8)	(9)	(36)
Net income (loss) attributable to Community Health Systems, Inc.	$ 79	$ 111	$ 52	$ (83)	$ 158
Basic earnings (loss) per share attributable to Community Health Systems, Inc. common stockholders(1):					
Continuing operations	$ 0.80	$ 1.02	$ 0.52	$ (0.66)	$ 1.69
Discontinued operations	(0.11)	(0.06)	(0.07)	(0.08)	(0.31)
Net income (loss)	$ 0.69	$ 0.96	$ 0.45	$ (0.73)	$ 1.38
Diluted earnings (loss) per share attributable to Community Health Systems, Inc. common stockholders(1):					
Continuing operations	$ 0.79	$ 1.01	$ 0.51	$ (0.66)	$ 1.68
Discontinued operations	(0.11)	(0.06)	(0.07)	(0.08)	(0.31)
Net income (loss)	$ 0.68	$ 0.95	$ 0.44	$ (0.73)	$ 1.37
Weighted-average number of shares outstanding:					
Basic	114,419,590	115,194,899	115,319,986	112,891,505	114,454,674
Diluted	115,057,668	116,100,417	116,368,157	112,891,505	115,272,404

(1) Total per share amounts may not add due to rounding.
(2) Total quarterly amounts may not add due to rounding.

20. SUPPLEMENTAL CONDENSED CONSOLIDATING FINANCIAL INFORMATION

The Senior Notes due 2019, 2020 and 2022, which are senior unsecured obligations of CHS, and the 5 ⅛% Senior Secured Notes due 2018 and 2021 (collectively, "the Notes") are guaranteed on a senior basis by the Company and by certain of its existing and subsequently acquired or organized 100% owned domestic subsidiaries. The Notes are fully and unconditionally guaranteed on a joint and several basis, with exceptions considered customary for such guarantees, limited to the release of the guarantee when a subsidiary guarantor's capital stock is sold, or a sale of all of the subsidiary guarantor's assets used in operations. The following condensed consolidating financial statements present Community Health Systems, Inc. (as parent guarantor), CHS (as the issuer), the subsidiary guarantors, the subsidiary non-guarantors and eliminations. These condensed consolidating financial statements have been prepared and presented in accordance with SEC Regulation S-X Rule 3-10 "Financial Statements of Guarantors and Issuers of Guaranteed Securities Registered or Being Registered."

The accounting policies used in the preparation of this financial information are consistent with those elsewhere in the consolidated financial statements of the Company, except as noted below:

- Intercompany receivables and payables are presented gross in the supplemental condensed consolidating balance sheets.
- Cash flows from intercompany transactions are presented in cash flows from financing activities, as changes in intercompany balances with affiliates, net.
- Income tax expense is allocated from the parent guarantor to the income producing operations (other guarantors and non-guarantors) and the issuer through stockholders' equity. As this approach represents an allocation, the income tax expense allocation is considered non-cash for statement of cash flow purposes.
- Interest expense, net has been presented to reflect net interest expense and interest income from outstanding long-term debt and intercompany balances.

The Company's intercompany activity consists primarily of daily cash transfers for purposes of cash management, the allocation of certain expenses and expenditures paid for by the Parent on behalf of its subsidiaries, and the push down of investment in its subsidiaries. This activity also includes the intercompany transactions between consolidated entities as part of the Receivables Facility that is further discussed in Note 7. The Company's subsidiaries generally do not purchase services from one another; thus, the intercompany transactions do not represent revenue generating transactions. All intercompany transactions eliminate in consolidation.

From time to time, subsidiaries of the Company sell and/or repurchase noncontrolling interests in consolidated subsidiaries, which may change subsidiaries between guarantors and non-guarantors. Effective with the spin-off of QHC, all subsidiaries of the Company that were part of that distribution have been removed as guarantors. Amounts for prior periods have been revised to reflect the status of guarantors or non-guarantors as of December 31, 2016.

Condensed Consolidating Statement of Loss
Year Ended December 31, 2016

	Parent Guarantor	Issuer	Other Guarantors	Non - Guarantors	Eliminations	Consolidated
			(In millions)			
Operating revenues (net of contractual allowances and discounts)	$ -	$ (25)	$ 13,213	$ 8,087	$ -	$ 21,275
Provision for bad debts	-	-	1,902	935	-	2,837
Net operating revenues	-	(25)	11,311	7,152	-	18,438
Operating costs and expenses:						
Salaries and benefits	-	-	4,569	4,055	-	8,624
Supplies	-	-	1,990	1,021	-	3,011
Other operating expenses	-	-	2,823	1,425	-	4,248
Government and other legal settlements and related costs	-	-	16	-	-	16
Electronic health records incentive reimbursement	-	-	(42)	(28)	-	(70)
Rent	-	-	235	215	-	450
Depreciation and amortization	-	-	734	366	-	1,100
Impairment and (gain) loss on sale of businesses, net	-	-	1,409	510	-	1,919
Total operating costs and expenses	-	-	11,734	7,564	-	19,298
Loss from operations	-	(25)	(423)	(412)	-	(860)
Interest expense, net	-	241	655	66	-	962
Loss from early extinguishment of debt	-	30	-	-	-	30
Gain on sale of investments in unconsolidated affiliates	-	-	(94)	-	-	(94)
Equity in earnings of unconsolidated affiliates	1,721	1,461	467	-	(3,692)	(43)
(Loss) income from continuing operations before income taxes	(1,721)	(1,757)	(1,451)	(478)	3,692	(1,715)
Provision for (benefit from) income taxes	-	(36)	7	(75)	-	(104)
(Loss) income from continuing operations	(1,721)	(1,721)	(1,458)	(403)	3,692	(1,611)
Discontinued operations, net of taxes:						
(Loss) income from operations of entities sold or held for sale	-	-	(9)	2	-	(7)
Impairment of hospitals sold or held for sale	-	-	(2)	(6)	-	(8)
Loss from discontinued operations, net of taxes	-	-	(11)	(4)	-	(15)
Net (loss) income	(1,721)	(1,721)	(1,469)	(407)	3,692	(1,626)
Less: Net income attributable to noncontrolling interests	-	-	-	95	-	95
Net (loss) income attributable to Community Health Systems, Inc. stockholders	$ (1,721)	$ (1,721)	$ (1,469)	$ (502)	$ 3,692	$ (1,721)

Condensed Consolidating Statement of Income
Year Ended December 31, 2015

	Parent Guarantor	Issuer	Other Guarantors	Non - Guarantors	Eliminations	Consolidated
			(In millions)			
Operating revenues (net of contractual allowances and discounts)	$ -	$ (20)	$ 12,983	$ 9,601	$ -	$ 22,564
Provision for bad debts	-	-	1,961	1,166	-	3,127
Net operating revenues	-	(20)	11,022	8,435	-	19,437
Operating costs and expenses:						
Salaries and benefits	-	-	4,506	4,485	-	8,991
Supplies	-	-	1,911	1,137	-	3,048
Other operating expenses	-	-	2,693	1,827	-	4,520
Government and other legal settlements and related costs	-	-	4	-	-	4
Electronic health records incentive reimbursement	-	-	(95)	(65)	-	(160)
Rent	-	-	223	234	-	457
Depreciation and amortization	-	-	729	443	-	1,172
Impairment and (gain) loss on sale of businesses, net	-	-	55	13	-	68
Total operating costs and expenses	-	-	10,026	8,074	-	18,100
(Loss) income from operations	-	(20)	996	361	-	1,337
Interest expense, net	-	107	742	124	-	973
Loss from early extinguishment of debt	-	16	-	-	-	16
Equity in earnings of unconsolidated affiliates	(158)	(226)	(106)	-	427	(63)
Income from continuing operations before income taxes	158	83	360	237	(427)	411
(Benefit from) provision for income taxes	-	(75)	136	55	-	116
Income (loss) from continuing operations	158	158	224	182	(427)	295
Discontinued operations, net of taxes:						
Loss from operations of entities sold or held for sale	-	-	(3)	(24)	-	(27)
Impairment of hospitals sold or held for sale	-	-	(5)	-	-	(5)
Loss on sale, net	-	-	-	(4)	-	(4)
Loss from discontinued operations, net of taxes	-	-	(8)	(28)	-	(36)
Net income	158	158	216	154	(427)	259
Less: Net income attributable to noncontrolling interests	-	-	-	101	-	101
Net income attributable to Community Health Systems, Inc. stockholders	$ 158	$ 158	$ 216	$ 53	$ (427)	$ 158

Condensed Consolidating Statement of Income
Year Ended December 31, 2014

	Parent Guarantor	Issuer	Other Guarantors	Non - Guarantors	Eliminations	Consolidated
			(In millions)			
Operating revenues (net of contractual allowances and discounts)	$ -	$ (18)	$ 12,420	$ 9,159	$ -	$ 21,561
Provision for bad debts	-	-	1,819	1,103	-	2,922
Net operating revenues	-	(18)	10,601	8,056	-	18,639
Operating costs and expenses:						
Salaries and benefits	-	-	4,394	4,224	-	8,618
Supplies	-	-	1,804	1,058	-	2,862
Other operating expenses	-	-	2,401	1,921	-	4,322
Government and other legal settlements and related costs	-	-	101	-	-	101
Electronic health records incentive reimbursement	-	-	(149)	(110)	-	(259)
Rent	-	-	216	218	-	434
Depreciation and amortization	-	-	708	398	-	1,106
Amortization of software to be abandoned	-	-	45	30	-	75
Impairment and (gain) loss on sale of businesses, net	-	-	40	1	-	41
Total operating costs and expenses	-	-	9,560	7,740	-	17,300
(Loss) income from operations	-	(18)	1,041	316	-	1,339
Interest expense, net	-	(10)	492	490	-	972
Loss from early extinguishment of debt	-	73	-	-	-	73
Equity in earnings of unconsolidated affiliates	(92)	(222)	179	-	87	(48)
Income (loss) from continuing operations before income taxes	92	141	370	(174)	(87)	342
Provision for (benefit from) income taxes	-	49	136	(103)	-	82
Income (loss) from continuing operations	92	92	234	(71)	(87)	260
Discontinued operations, net of taxes:						
(Loss) income from operations of entities sold or held for sale	-	-	(12)	5	-	(7)
Impairment of hospitals sold or held for sale	-	-	-	(50)	-	(50)
Loss from discontinued operations, net of taxes	-	-	(12)	(45)	-	(57)
Net income (loss)	92	92	222	(116)	(87)	203
Less: Net income attributable to noncontrolling interests	-	-	-	111	-	111
Net income (loss) attributable to Community Health Systems, Inc. stockholders	$ 92	$ 92	$ 222	$ (227)	$ (87)	$ 92

Condensed Consolidating Statement of Comprehensive Loss
Year Ended December 31, 2016

	Parent Guarantor	Issuer	Other Guarantors	Non - Guarantors	Eliminations	Consolidated
			(In millions)			
Net loss	$ (1,721)	$ (1,721)	$ (1,469)	$ (407)	$ 3,692	$ (1,626)
Other comprehensive income (loss), net of income taxes:						
Net change in fair value of interest rate swaps, net of tax	17	17	-	-	(17)	17
Net change in fair value of available-for-sale securities, net of tax	(11)	(11)	(11)	-	22	(11)
Amortization and recognition of unrecognized pension cost components, net of tax	3	3	3	-	(6)	3
Other comprehensive income (loss)	9	9	(8)	-	(1)	9
Comprehensive loss	(1,712)	(1,712)	(1,477)	(407)	3,691	(1,617)
Less: Comprehensive income attributable to noncontrolling interests	-	-	-	95	-	95
Comprehensive loss attributable to Community Health Systems, Inc. stockholders	$ (1,712)	$ (1,712)	$ (1,477)	$ (502)	$ 3,691	$ (1,712)

Condensed Consolidating Statement of Comprehensive Income
Year Ended December 31, 2015

	Parent Guarantor	Issuer	Other Guarantors	Non - Guarantors	Eliminations	Consolidated
			(In millions)			
Net income	$ 158	$ 158	$ 216	$ 154	$ (427)	$ 259
Other comprehensive (loss) income, net of income taxes:						
Net change in fair value of interest rate swaps, net of tax	(6)	(6)	-	-	6	(6)
Net change in fair value of available-for-sale securities, net of tax	(5)	(5)	(5)	-	10	(5)
Amortization and recognition of unrecognized pension cost components, net of tax	1	1	1	-	(2)	1
Other comprehensive loss	(10)	(10)	(4)	-	14	(10)
Comprehensive income	148	148	212	154	(413)	249
Less: Comprehensive income attributable to noncontrolling interests	-	-	-	101	-	101
Comprehensive income (loss) attributable to Community Health Systems, Inc. stockholders	$ 148	$ 148	$ 212	$ 53	$ (413)	$ 148

Condensed Consolidating Statement of Comprehensive Income
Year Ended December 31, 2014

	Parent Guarantor	Issuer	Other Guarantors	Non - Guarantors	Eliminations	Consolidated
			(In millions)			
Net income (loss)	$ 92	$ 92	$ 222	$ (116)	$ (87)	$ 203
Other comprehensive income (loss), net of income taxes:						
Net change in fair value of interest rate swaps, net of tax	13	13	-	-	(13)	13
Net change in fair value of available-for-sale securities, net of tax	-	-	-	-	-	-
Amortization and recognition of unrecognized pension cost components, net of tax	(9)	(9)	(9)	-	18	(9)
Other comprehensive income (loss)	4	4	(9)	-	5	4
Comprehensive income (loss)	96	96	213	(116)	(82)	207
Less: Comprehensive income attributable to noncontrolling interests	-	-	-	111	-	111
Comprehensive income (loss) attributable to Community Health Systems, Inc. stockholders	$ 96	$ 96	$ 213	$ (227)	$ (82)	$ 96

Condensed Consolidating Balance Sheet
December 31, 2016

	Parent Guarantor	Issuer	Other Guarantors	Non - Guarantors	Eliminations	Consolidated
			(In millions)			
ASSETS						
Current assets:						
Cash and cash equivalents	$ -	$ -	$ 162	$ 76	$ -	$ 238
Patient accounts receivable, net of allowance for doubtful accounts	-	-	843	2,333	-	3,176
Supplies	-	-	324	156	-	480
Prepaid income taxes	17	-	-	-	-	17
Prepaid expenses and taxes	-	-	133	54	-	187
Other current assets	-	-	283	285	-	568
Total current assets	17	-	1,745	2,904	-	4,666
Intercompany receivable	295	14,966	667	6,985	(22,913)	-
Property and equipment, net	-	-	5,403	2,746	-	8,149
Goodwill	-	-	3,735	2,786	-	6,521
Other assets, net	15	-	2,820	995	(1,222)	2,608
Net investment in subsidiaries	1,728	22,205	8,607	-	(32,540)	-
Total assets	$ 2,055	$ 37,171	$ 22,977	$ 16,416	$ (56,675)	$ 21,944
LIABILITIES AND EQUITY						
Current liabilities:						
Current maturities of long-term debt	$ -	$ 149	$ 56	$ 250	$ -	$ 455
Accounts payable	-	-	715	280	-	995
Accrued interest	-	205	1	1	-	207
Accrued liabilities	17	-	775	438	-	1,230
Total current liabilities	17	354	1,547	969	-	2,887
Long-term debt	-	14,018	233	538	-	14,789
Intercompany payable	-	19,811	17,508	13,393	(50,712)	-
Deferred income taxes	411	-	-	-	-	411
Other long-term liabilities	12	1,259	1,187	339	(1,222)	1,575
Total liabilities	440	35,442	20,475	15,239	(51,934)	19,662
Redeemable noncontrolling interests in equity of consolidated subsidiaries	-	-	-	554	-	554
Equity:						
Community Health Systems, Inc. stockholders' equity:						
Common stock	1	-	-	-	-	1
Additional paid-in capital	1,975	676	1,080	816	(2,572)	1,975
Accumulated other comprehensive loss	(62)	(62)	(22)	(9)	93	(62)
(Accumulated deficit) retained earnings	(299)	1,115	1,444	(297)	(2,262)	(299)
Total Community Health Systems, Inc. stockholders' equity	1,615	1,729	2,502	510	(4,741)	1,615
Noncontrolling interests in equity of consolidated subsidiaries	-	-	-	113	-	113
Total equity	1,615	1,729	2,502	623	(4,741)	1,728
Total liabilities and equity	$ 2,055	$ 37,171	$ 22,977	$ 16,416	$ (56,675)	$ 21,944

Condensed Consolidating Balance Sheet
December 31, 2015

	Parent Guarantor	Issuer	Other Guarantors	Non - Guarantors	Eliminations	Consolidated
			(In millions)			
ASSETS						
Current assets:						
Cash and cash equivalents	$ -	$ -	$ 31	$ 153	$ -	$ 184
Patient accounts receivable, net of allowance for doubtful accounts	-	-	924	2,687	-	3,611
Supplies	-	-	362	218	-	580
Prepaid income taxes	27	-	-	-	-	27
Prepaid expenses and taxes	-	-	128	69	-	197
Other current assets	-	-	336	231	-	567
Total current assets	27	-	1,781	3,358	-	5,166
Intercompany receivable	1,159	16,540	4,062	7,479	(29,240)	-
Property and equipment, net	-	-	6,311	3,801	-	10,112
Goodwill	-	-	5,501	3,464	-	8,965
Other assets, net	-	-	2,185	1,212	(1,045)	2,352
Net investment in subsidiaries	3,438	20,257	9,354	-	(33,049)	-
Total assets	$ 4,624	$ 36,797	$ 29,194	$ 19,314	$ (63,334)	$ 26,595
LIABILITIES AND EQUITY						
Current liabilities:						
Current maturities of long-term debt	$ -	$ 162	$ 49	$ 18	$ -	$ 229
Accounts payable	-	-	785	473	-	1,258
Accrued interest	-	226	-	1	-	227
Accrued liabilities	4	-	824	530	-	1,358
Total current liabilities	4	388	1,658	1,022	-	3,072
Long-term debt	-	15,605	136	815	-	16,556
Intercompany payable	-	16,150	22,232	15,524	(53,906)	-
Deferred income taxes	593	-	-	-	-	593
Other long-term liabilities	8	1,216	1,196	322	(1,044)	1,698
Total liabilities	605	33,359	25,222	17,683	(54,950)	21,919
Redeemable noncontrolling interests in equity of consolidated subsidiaries	-	-	-	571	-	571
Equity:						
Community Health Systems, Inc. stockholders' equity:						
Common stock	1	-	-	-	-	1
Additional paid-in capital	1,963	1,324	1,505	965	(3,794)	1,963
Treasury stock, at cost	(7)	-	-	-	-	(7)
Accumulated other comprehensive loss	(73)	(73)	(21)	(3)	97	(73)
Retained earnings	2,135	2,187	2,488	12	(4,687)	2,135
Total Community Health Systems, Inc. stockholders' equity	4,019	3,438	3,972	974	(8,384)	4,019
Noncontrolling interests in equity of consolidated subsidiaries	-	-	-	86	-	86
Total equity	4,019	3,438	3,972	1,060	(8,384)	4,105
Total liabilities and equity	$ 4,624	$ 36,797	$ 29,194	$ 19,314	$ (63,334)	$ 26,595

Condensed Consolidating Statement of Cash Flows
Year Ended December 31, 2016

	Parent Guarantor	Issuer	Other Guarantors	Non - Guarantors	Eliminations	Consolidated
			(In millions)			
Net cash provided by (used in) operating activities	$ 14	$ (335)	$ 1,322	$ 136	$ -	$ 1,137
Cash flows from investing activities:						
Acquisitions of facilities and other related equipment	-	-	(3)	(120)	-	(123)
Purchases of property and equipment	-	-	(519)	(225)	-	(744)
Proceeds from disposition of hospitals and other ancillary operations	-	-	16	127	-	143
Proceeds from sale of property and equipment	-	-	8	7	-	15
Purchases of available-for-sale securities	-	-	(263)	(242)	-	(505)
Proceeds from sales of available-for-sale securities	-	-	218	246	-	464
Proceeds from sale of investments in unconsolidated affiliates	-	-	403	-	-	403
Distribution from Quorum Health Corporation	-	1,219	-	-	-	1,219
Increase in other investments	-	-	(178)	(64)	-	(242)
Net cash provided by (used in) investing activities	-	1,219	(318)	(271)	-	630
Cash flows from financing activities:						
Repurchase of restricted stock shares for payroll tax withholding requirements	(6)	-	-	-	-	(6)
Deferred financing costs and other debt-related costs	-	(26)	-	-	-	(26)
Redemption of noncontrolling investments in joint ventures	-	-	-	(19)	-	(19)
Distributions to noncontrolling investors in joint ventures	-	-	-	(92)	-	(92)
Proceeds from sale-lease back	-	-	147	12	-	159
Changes in intercompany balances with affiliates, net	(8)	801	(980)	187	-	-
Borrowings under credit agreements	-	4,848	28	3	-	4,879
Proceeds from receivables facility	-	-	-	107	-	107
Repayments of long-term indebtedness	-	(6,507)	(68)	(140)	-	(6,715)
Net cash (used in) provided by financing activities	(14)	(884)	(873)	58	-	(1,713)
Net change in cash and cash equivalents	-	-	131	(77)	-	54
Cash and cash equivalents at beginning of period	-	-	31	153	-	184
Cash and cash equivalents at end of period	$ -	$ -	$ 162	$ 76	$ -	$ 238

Condensed Consolidating Statement of Cash Flows
Year Ended December 31, 2015

	Parent Guarantor	Issuer	Other Guarantors	Non - Guarantors	Eliminations	Consolidated
			(In millions)			
Net cash (used in) provided by operating activities	$ (25)	$ 159	$ 569	$ 218	$ -	$ 921
Cash flows from investing activities:						
Acquisitions of facilities and other related equipment	-	-	(21)	(36)	-	(57)
Purchases of property and equipment	-	-	(660)	(293)	-	(953)
Proceeds from disposition of hospitals and other ancillary operations	-	-	21	134	-	155
Proceeds from sale of property and equipment	-	-	7	8	-	15
Purchases of available-for-sale securities	-	-	(53)	(109)	-	(162)
Proceeds from sales of available-for-sale securities	-	-	46	110	-	156
Increase in other investments	-	-	(156)	(49)	-	(205)
Net cash used in investing activities	-	-	(816)	(235)	-	(1,051)
Cash flows from financing activities:						
Proceeds from exercise of stock options	25	-	-	-	-	25
Repurchase of restricted stock shares for payroll tax withholding requirements	(20)	-	-	-	-	(20)
Stock buy-back	(159)	-	-	-	-	(159)
Deferred financing costs and other debt-related costs	-	(30)	-	-	-	(30)
Proceeds from noncontrolling investors in joint ventures	-	-	-	47	-	47
Redemption of noncontrolling investments in joint ventures	-	-	-	(36)	-	(36)
Distributions to noncontrolling investors in joint ventures	-	-	-	(100)	-	(100)
Changes in intercompany balances with affiliates, net	179	(181)	(57)	59	-	-
Borrowings under credit agreements	-	4,880	34	8	-	4,922
Proceeds from receivables facility	-	-	-	206	-	206
Repayments of long-term indebtedness	-	(4,828)	(69)	(153)	-	(5,050)
Net cash provided by (used in) financing activities	25	(159)	(92)	31	-	(195)
Net change in cash and cash equivalents	-	-	(339)	14	-	(325)
Cash and cash equivalents at beginning of period	-	-	370	139	-	509
Cash and cash equivalents at end of period	$ -	$ -	$ 31	$ 153	$ -	$ 184

Condensed Consolidating Statement of Cash Flows
Year Ended December 31, 2014

	Parent Guarantor	Issuer	Other Guarantors	Non - Guarantors	Eliminations	Consolidated
			(In millions)			
Net cash provided by operating activities	$ 176	$ 319	$ 919	$ 201	$ -	$ 1,615
Cash flows from investing activities:						
Acquisitions of facilities and other related equipment	-	-	(2,876)	(215)	-	(3,091)
Purchases of property and equipment	-	-	(577)	(276)	-	(853)
Proceeds from disposition of hospitals and other ancillary operations	-	-	3	85	-	88
Proceeds from sale of property and equipment	-	-	41	9	-	50
Purchases of available-for-sale securities	-	-	(23)	(240)	-	(263)
Proceeds from sales of available-for-sale securities	-	-	24	205	-	229
Increase in other investments	-	-	(352)	(159)	-	(511)
Net cash used in investing activities	-	-	(3,760)	(591)	-	(4,351)
Cash flows from financing activities:						
Proceeds from exercise of stock options	65	-	-	-	-	65
Repurchase of restricted stock shares for payroll tax withholding requirements	(11)	-	-	-	-	(11)
Stock buy-back	(9)	-	-	-	-	(9)
Deferred financing costs and other debt-related costs	-	(276)	-	-	-	(276)
Proceeds from noncontrolling investors in joint ventures	-	-	-	10	-	10
Redemption of noncontrolling investments in joint ventures	-	-	-	(158)	-	(158)
Distributions to noncontrolling investors in joint ventures	-	-	-	(104)	-	(104)
Changes in intercompany balances with affiliates, net	(221)	(3,334)	3,017	538	-	-
Borrowings under credit agreements	-	9,081	34	16	-	9,131
Issuance of long-term debt	-	4,000	-	-	-	4,000
Proceeds from receivables facility	-	-	-	204	-	204
Repayments of long-term indebtedness	-	(9,790)	(89)	(101)	-	(9,980)
Net cash (used in) provided by financing activities	(176)	(319)	2,962	405	-	2,872
Net change in cash and cash equivalents	-	-	121	15	-	136
Cash and cash equivalents at beginning of period	-	-	249	124	-	373
Cash and cash equivalents at end of period	$ -	$ -	$ 370	$ 139	$ -	$ 509

Proof of Publication

Attn:
To: TENNOVA HEALTHCARE

(Advertising) NOTIFICATION OF INTENT TO APPLY FOR **(Ref No:** 1873928)

P.O.#:

PUBLISHER'S AFFIDAVIT

State of Tennessee }
s.s
County of Knox }

Before me, the undersigned, a Notary Public in and for said county, this day personally came Natalie Zollar first duly sworn, according to law, says that he/she is a duly authorized representative of *The Knoxville News-Sentinel*, a daily newspaper published at Knoxville, in said county and state, and that the advertisement of:

(The Above-Referenced)

of which the annexed is a copy, was published in said paper on the following date(s):

01/09/2018

and that the statement of account herewith is correct to the best of his/her knowledge, information, and belief.

Natalie Zollar

Subscribed and sworn to before me this January 09, 2018

Karol E Kangas
Notary Public

My commission expires _____ 20_____

KAROL E KANGAS
Notary Public - State of Florida
Commission # GG 126041
My Comm. Expires Jul 29, 2021
Bonded through National Notary Assn.

News Sentinel localfieds

Where local meets classifieds.

Place your ad with us. Call 865-637-4111

KNOXVILLE NEWS SENTINEL CLASSIFIED DEPARTMENT

Call us at (865) 637-4111 and select 1 when prompted. If there is no answer, please leave your name and number. We will call you back as soon as possible!

DEADLINES: Note: Classified ads do not run on Monday's.

- Tuesday ads deadline on Monday at 1PM
- Wednesday ads deadline on Tuesday at 1PM
- Thursday ads deadline on Wednesday at 1PM
- Friday ads deadline on Thursday at 1PM
- Saturday ads deadline on Friday at Noon
- Sunday ads deadline on Friday at 2PM
- Celebration ads (Sunday) deadline on Tuesday at 5PM

We are not open on weekends. Call and leave us a message, and we will return your call upon our return.

Transportation

Automobiles for Sale

CHEVROLET MALIBU 2016 silver, black leather interior, ex. condition, 32K, $13,500 Call for info (423)[illegible]

Sport Utility Vehicles

2008 HONDA PILOT [illegible]

2013 CADILLAC ESCALADE excellent condition, [illegible] for more info (423)295-5333

2013 YUKON DENALI XL pearl white, fully loaded, exc cond. [illegible]

INFINITI QX60 2016 - [illegible] black w/tan leather, [illegible] Call for details [illegible]

Trucks

FORD F-250 - [illegible]

Classic Cars

PORSCHE 911 I am looking to buy an Air-Cooled Porsche 911 in any condition, running or not running. I am a local in the Knoxville area and a serious buyer. Please call Jason (865)675-6018.

Vehicles Wanted

FAST $$ CASH $$ 4 JUNK AUTOS 865-216-5052 or 865-856-8106

Recreation

Boats/Motors/Marine

YAMAHA 150HP 4 STROKE ORIGINAL owner, [illegible] good cond., well maintained [illegible]

Campers & RV's

WE BUY CAMPERS
- Travel Trailers
- 5th Wheels
- Popup Campers
- Motorhomes

WILL PAY CASH

423-504-8036

Wheels/Recreation

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localfieds

Campers & RV's

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SPECIAL SHOW PRICING AVAILABLE FOR A LIMITED TIME ONLY! SAVE $$$$$$

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Farm Products

AT YOUR SITE LOGS TO LUMBER USING A WOOD MIZER PORTABLE SAW MILL **865-986-4264** Logs2Lumber.com

Livestock & Supplies

PREMIUM QUALITY TIMOTHY HAY [illegible]

Pets

Lost Pets

LOST CAT - charcoal gray male, 17yrs old, he has a chip, for more info call [illegible]

Free Pets

CATS - [illegible]

Dogs

AKC CAIRN TERRIERS [illegible]

AKC DOBERMAN Puppies, [illegible]

AKC ENGLISH LAB PUPS [illegible]

BORDER COLLIE PUPS [illegible]

CHOCOLATE AKC HAVANESE PUPPIES [illegible]

GERMAN SHEPARD PUPPIES - AKC [illegible]

GOLDEN RETRIEVER [illegible]

GOLDEN RETRIEVER PUPPIES [illegible]

GOLDENDOODLE PUPPIES F1B [illegible]

GREYHOUND ADOPTION [illegible]

LABRADOR PUPS AKC REG. [illegible]

PUPPY NURSERY [illegible]

SHIH TZU PUPPIES AKC, beautiful colors, Shots UTD, Warranty $700 423-618-8038 423-775-4016

TOY BREEDS - [illegible]

Merchandise

Lost Merchandise

REWARD: LOST TURQUOISE EAR RING [illegible]

Antiques

1932 GERMAN MILITARY BLANKET [illegible]

ANTIQUE CABBAGE SHREDDER metal & wood $75 for more info. (865)947-7707

SMALL LAMP MADE OUT OF SAUSAGE GRINDER - $25 (865)435-6855

SOLID CHERRY DINING TABLE 1940's, [illegible]

Appliances

DORMAATORY REFRIGERAATOR - new condition, $65 (865)340-6069

WHATZIT? Find the familiar phrase, saying or name in this arrangement of letters.

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Solution found in Retail Space / Rent

Appliances

USED WHITE ELECTRIC STOVE - $75 (865)805-6357

USED WHITE ELECTRIC STOVE - $[illegible] (865)805-6357

Arts & Crafts

SCALE MODEL OF [illegible]

Bicycles & Skates

KIDS BIKES - 1 boy, 1 girl, [illegible]

Clothing

SAS SHOES - [illegible]

Collectibles

1956 UT ANNUAL YEARBOOK - [illegible]

8 1950 ALBUMS [illegible]

APPROX. 230 BAG OF MARBLES [illegible]

ART COLLECTION - [illegible]

BEAUTIFUL TIMBER WOLF PRINT [illegible]

BUYING OLD US COINS [illegible] **WEST SIDE COINS & COLLECTIBLES 7004 KINGSTON PK CALL 584-8870**

CRYSTAL, Amethyst & Quartz. [illegible]

DICKENS VILLAGE HOUSES & Accessories, [illegible]

FLOURITE ROCK SPECIMEN [illegible]

MCDONALD'S RESTAURANT SWIVEL CHAIR [illegible]

UNIQUE ROCK GARDEN ROCKS [illegible]

Commercial Equip.

STAINLESS STEEL COMMERCIAL RESTAURANT SINK [illegible]

Computers & Acces.

DESK TOP COMPUTER - for sale, [illegible]

LAPTOP FOR SALE [illegible]

MAC BOOK [illegible]

Furniture

2 QUEEN ANNE END TABLES OAK [illegible]

1 NATIVITY SCENE CERAMASTONE [illegible]

CHEST OF DRAWERS [illegible]

COMFY PLUSH NAVY BLANKS [illegible]

ENTERTAINMENT CENTER VIDEO [illegible]

GREEN RECLINER [illegible]

QUEEN ANNE COMFORTABLE CHAIR [illegible]

SUNROOM RECLINER - [illegible]

Heavy Equipment

10 TON TANDEM EQUIPMENT TRAILER [illegible]

Hobbies

BASEBALL CARDS FOR SALE OR TRADE - [illegible]

Household Goods

LARGE PLAY YARD - new in box from babies r us $50 (865)675 1959

STEP LADDER - 5FT Good condition $15 for more info call (865)340-6069

Jewelry: Costume/Fine

OLD AUTOMATIC HAMILTON WRIST WATCH - 18K gold plated, $50 [illegible]

Lawn & Garden

GAS MODEL 2017 LEAF BLOWER - $75 (865)340-6069

Merchandise - Misc.

ALUMINUM LADDER 20FT. New condition $55 for more info call (865)405-5491

CAST IRON WOOD BURNING Fireplace Insert. [illegible]

CLOTH TABLECLOTH ROUND 70" Beige, $5 (865)755-3486

Merchandise - Misc.

CORDLESS TELEPHONE - Works well $5 for more info call (865)755-3486

DIGITAL 4 QT PRESSURE COOKER [illegible]

FIBERGLASS STEPLADDER [illegible]

FOLDING LADDER [illegible]

FOOD LOVERS FAT LOSS SYSTEM [illegible]

G.E. DEHUMIDIFIER [illegible]

HIKING STICKS [illegible]

KING SIZE QUILTS [illegible]

LARGE HARD SHELL DOG CARRIER [illegible]

LARGE KEROSENE HEATER [illegible]

LARGE WET VACUUM [illegible]

LITTLE TIKES ROCKING PUPPY [illegible]

ORIGINAL SATURDAY NIGHT FEVER ALBUM [illegible]

PEWTER LAMP [illegible]

QUARTZ SPACEHEATER [illegible]

QUEEN SIZE SILK SHEETS [illegible]

RACE CHAMPION COLLECTIBLE CARS [illegible]

TV STAND [illegible]

WALKING CANES [illegible]

WERNER TRUCK RAMPS [illegible]

WHIRPOOL DEHUMIDIFIER [illegible]

Office Furniture/Equip.

DESK, FILE CABINET, & CABINET [illegible]

Sporting Goods

COLLECTIBLE MCGREGOR EYEMATIC SET OF GOLF CLUBS [illegible]

Tickets/Events

UT BASKETBALL PARKING PASSES ALL GAMES HOME/AWAY BUY/SELL ALL CONCERTS / ALL EVENTS **(865)687-1718** selectticketservice.com

Tools

METAL ALUMINUM TRUCK TOOL BOX [illegible]

Wanted

FREON 12 WANTED. [illegible] www.refrigerantfinders.com

LOST LADIES C.K. - [illegible]

ONYX FIGURINE [illegible]

THE SOPRANOS COLLECTION DVD SERIES [illegible]

USCG LIFE PRESERVERS AND [illegible]

Legals

Auction/Public Sale

NOTICE OF PUBLIC SALE

[illegible]

UNIT # - [illegible]

Auction/Public Sale

UNIT # - [illegible]

THE CONTENTS OF THE ABOVE-REFERENCED UNITS SHALL BE SOLD FOR CASH, IN THEIR "AS IS, WHERE IS" CONDITION AND SUBJECT TO ANY AND ALL APPLICABLE LIENS, TAXES, ETC. AFFECTING THE SAME, IF ANY.

NOTICE OF PUBLIC SALE OF PERSONAL PROPERTY

[illegible]

•Metro Self Storage [illegible]

The bidding will close on the website StorageStuff.Bid and a high bidder will be selected on January 24, 2018 at 10:00 AM.

[illegible]

•Metro Self Storage [illegible]

The bidding will close on the website StorageStuff.Bid and a high bidder will be selected on January 24, 2018 at 10:00 AM.

[illegible]

•Metro Self Storage [illegible]

The bidding will close on the website StorageStuff.Bid and a high bidder will be selected on January 24, 2018 at 10:00 AM.

[illegible]

•Metro Self Storage [illegible]

The bidding will close on the website StorageStuff.Bid and a high bidder will be selected on January 24, 2018 at 10:00 AM.

[illegible]

•Metro Self Storage [illegible]

The bidding will close on the website StorageStuff.Bid and a high bidder will be selected on January 24, 2018 at 10:00 AM.

[illegible]

•Metro Self Storage [illegible]

The bidding will close on the website StorageStuff.Bid and a high bidder will be selected on January 24, 2018 at 10:00 AM.

[illegible]

•Metro Self Storage [illegible]

Auction/Public Sale

T: 865-670-8919

The bidding will close on the website StorageStuff.Bid and a high bidder will be selected on January 24, 2018 at 10:00 AM.

Kelly Carr	N064
Jennifer Rogers	O059

Legals

NOTICE TO CREDITORS
ESTATE OF CLARENCE WILLIAM SUDDERTH, JR.
DOCKET NUMBER 79721-1

Notice is hereby given that on the 4TH day of JANUARY, 2018, letters administration in respect of the Estate of

CLARENCE WILLIAM SUDDERTH, JR

[illegible]

This instrument prepared by Robert Meyers, Manager Neighborhood Codes Enforcement [illegible] Knoxville, Tennessee [illegible]

ORDER

[illegible]

IT IS FURTHER ORDERED that [illegible]

Legals

NOTIFICATION OF INTENT TO APPLY FOR A CERTIFICATE OF NEED

[illegible]

The anticipated date of filing the application is: January 10, 2018

The contact person for this project is Clyde Wood; CEO, who may be reached at: Tennova Healthcare - NKMC 7565 Dannaher Drive Powell Tennessee 37849, 865 859-1705

Upon written request by interested parties, a local Fact-Finding public hearing shall be conducted. Written requests for hearing should be sent to:

Health Services and Development Agency
Andrew Jackson Building, 9th Floor
502 Deaderick Street
Nashville, Tennessee 37243

[illegible]

State of Tennessee
Health Services and Development Agency
Andrew Jackson, 9th Floor, 502 Deaderick Street, Nashville, TN 37243
www.tn.gov/hsda Phone: 615-741-2364 Fax: 615-741-9884

February 1, 2018

Mr. Clyde Wood, CEO
Tennova Healthcare North Knoxville Medical Center
7565 Dannaher Drive
Powell, TN 37849

RE: Certificate of Need Application – Metro Knoxville HMA, LLC dba Tennova Healthcare-North Knoxville Medical Center - CN1801-001
The addition of interventional cardiac procedures to its current single diagnostic cardiac catheterization lab located at Metro Knoxville HMA, LLC d/b/a Tennova Healthcare North Knoxville Medical Center, 7565 Dannaher Drive, Powell, (Knox County), Tennessee. The applicant is owned by Tennova Healthcare. The estimated project cost is $227,225.

Dear Mr. Wood:

This is to acknowledge the receipt of supplemental information to your application for a Certificate of Need. Please be advised that your application is now considered to be complete by this office.

Your application is being forwarded to Trent Sansing at the Tennessee Department of Health for Certificate of Need review by the Division of Policy, Planning and Assessment. You may be contacted by Mr. Sansing or someone from his office for additional clarification while the application is under review by the Department. Mr. Sansing's contact information is Trent.Sansing@tn.gov or 615-253-4702.

In accordance with Tennessee Code Annotated, §68-11-1607, et seq., as amended by Public Chapter 780, the 60-day review cycle for this project began on February 1, 2018. The first 60 days of the cycle are assigned to the Department of Health, during which time a public hearing may be held on your application. You will be contacted by a representative from this Agency to establish the date, time and place of the hearing should one be requested. At the end of the 60-day period, a written report from the Department of Health or its representative will be forwarded to this office for Agency review. You will receive a copy of their findings. The Health Services and Development Agency will review your application on April 25, 2018.

Any communication regarding projects under consideration by the Health Services and Development Agency shall be in accordance with T.C.A. § 68-11-1607(d):

(1) No communications are permitted with the members of the agency once the Letter of Intent initiating the application process is filed with the agency. Communications between agency members and agency staff shall not be prohibited. Any communication received by an agency member from a person unrelated to the applicant or party opposing the application shall be reported to the Executive Director and a written summary of such communication shall be made part of the certificate of need file.

(2) All communications between the contact person or legal counsel for the applicant and the Executive Director or agency staff after an application is deemed complete and placed in the review cycle are prohibited unless submitted in writing or confirmed in writing and made part of the certificate of need application file. Communications for the purposes of clarification of facts and issues that may arise after an application has been deemed complete and initiated by the Executive Director or agency staff are not prohibited.

Should you have questions or require additional information, please contact me.

Sincerely,

Melanie M. Hill
Executive Director

cc: Trent Sansing, TDH/Health Statistics, PPA

State of Tennessee
Health Services and Development Agency
Andrew Jackson, 9th Floor, 502 Deaderick Street, Nashville, TN 37243
www.tn.gov/hsda Phone: 615-741-2364 Fax: 615-741-9884

MEMORANDUM

TO: Trent Sansing, CON Director
Office of Policy, Planning and Assessment
Division of Health Statistics
Andrew Johnson Tower, 2nd Floor
710 James Robertson Parkway
Nashville, Tennessee 37243

FROM: Melanie M. Hill
Executive Director

DATE: February 1, 2018

RE: Certificate of Need Application
Metro Knoxville HMA, LLC dba Tennova Healthcare- North Knoxville Medical Center - CN1801-001

Please find enclosed an application for a Certificate of Need for the above-referenced project.

This application has undergone initial review by this office and has been deemed complete. It is being forwarded to your agency for a sixty (60) day review period to begin on February 1, 2018 and end on April 1, 2018.

Should there be any questions regarding this application or the review cycle, please contact this office.

Enclosure

cc: Clyde Wood

State of Tennessee
Health Services and Development Agency
Andrew Jackson Building, 9th Floor
502 Deaderick Street
Nashville, TN 37243
www.tn.gov/hsda Phone: 615-741-2364 Fax: 615-741-9884

JAN 9 '18 AM 10:51

LETTER OF INTENT

The Publication of Intent is to be published in the **Knoxville News Sentinel** (Name of Newspaper) which is a newspaper of general circulation in **Knox County** (County), Tennessee, on or before **January 9** (Month / day), **2018** (Year), for one day.

~~This is to provide official notice to the Health Services and Development Agency and all interested parties,~~ In accordance with T.C.A. § 68-11-1601 *et seq.*, and the Rules of the Health Services and Development Agency, that: **Metro Knoxville HMA, LLC, d/b/a Tennova Healthcare, North Knoxville Medical Center** (Name of Applicant) **Hospital** (Facility Type - Existing) owned by: **Metro Knoxville HMA Holdings, LLC d/b/a Tennova Healthcare** with an ownership type of **Limited Liability Corporation** and to be managed by: **Metro Knoxville HMA Holdings, LLC, d/b/a Tennova Healthcare** intends to file an application for a Certificate of Need for: **the expansion of the existing diagnostic cardiac catheterization services at Tennova Healthcare – North Knoxville Medical Center campus, 7565 Dannaher Drive, Powell, TN 37849 to include interventional (therapeutic) cardiac catheterization services. The project involves no construction or renovation as the interventional cardiac cath services will be provided in the existing cardiac catheterization/vascular lab. The licensed bed complement will not be affected by this proposal. The estimated total project cost is $227,225.**

The anticipated date of filing the application is: **January 10, 2018**

The contact person for this project is **Clyde Wood** (Contact Name) **CEO** (Title)

who may be reached at: **Tennova Healthcare-North Knoxville** (Company Name) **7565 Dannaher Drive** (Address)

Powell (City)	**Tennessee** (State)	**37849** (Zip Code)	**865.859.1205** (Area Code / Phone Number)
Clyde Wood (Signature)	01/02/2018 (Date)		**clyde.wood@tennova.com** (E-mail Address)

The Letter of Intent must be filed in triplicate and received between the first and the tenth day of the month. If the last day for filing is a Saturday, Sunday or State Holiday, filing must occur on the preceding business day. File this form at the following address:

Health Services and Development Agency
Andrew Jackson Building, 9th Floor
502 Deaderick Street
Nashville, Tennessee 37243

The published Letter of Intent must contain the following statement pursuant to T.C.A. § 68-11-1607(c)(1). (A) Any health care institution wishing to oppose a Certificate of Need application must file a written notice with the Health Services and Development Agency no later than fifteen (15) days before the regularly scheduled Health Services and Development Agency meeting at which the application is originally scheduled; and (B) Any other person wishing to oppose the application must file written objection with the Health Services and Development Agency at or prior to the consideration of the application by the Agency.

State of Tennessee
Health Services and Development Agency
Andrew Jackson Building, 9th Floor
502 Deaderick Street
Nashville, TN 37243
www.tn.gov/hsda Phone: 615-741-2364 Fax: 615-741-9884

JAN 9 '18 AM10:51

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~~This is to provide official notice to the Health Services and Development Agency and all interested parties, in~~ accordance with T.C.A. § 68-11-1601 *et seq.*, and the Rules of the Health Services and Development Agency, that: **Metro Knoxville HMA, LLC, d/b/a Tennova Healthcare, North Knoxville Medical Center** (Name of Applicant) **Hospital** (Facility Type - Existing) owned by: **Metro Knoxville HMA Holdings, LLC d/b/a Tennova Healthcare** with an ownership type of **Limited Liability Corporation** and to be managed by: **Metro Knoxville HMA Holdings, LLC, d/b/a Tennova Healthcare** intends to file an application for a Certificate of Need for: **the expansion of the existing diagnostic cardiac catheterization services at Tennova Healthcare – North Knoxville Medical Center campus, 7565 Dannaher Drive, Powell, TN 37849 to include interventional (therapeutic) cardiac catheterization services. The project involves no construction or renovation as the interventional cardiac cath services will be provided in the existing cardiac catheterization/vascular lab. The licensed bed complement will not be affected by this proposal. The estimated total project cost is $227,225.**

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The contact person for this project is **Clyde Wood** (Contact Name), **CEO** (Title)

who may be reached at: **Tennova Healthcare-North Knoxville** (Company Name), **7565 Dannaher Drive** (Address)

Powell (City)	**Tennessee** (State)	**37849** (Zip Code)	**865.859.1205** (Area Code / Phone Number)
Clyde Wood (Signature)		01/02/2018 (Date)	**clyde.wood@tennova.com** (E-mail Address)

The Letter of Intent must be filed in triplicate and received between the first and the tenth day of the month. If the last day for filing is a Saturday, Sunday or State Holiday, filing must occur on the preceding business day. File this form at the following address:

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Supplemental #1
(Original)

Metro Knoxville HMA, LLC
d/b/a Tennova Healthcare

CN1801-001

Supplemental #1

Tennova Healthcare

Supplemental Information January 25, 2018
Certificate of Need Application CN1801-001
Metro Knoxville HMA, LLC d/b/a Tennova Healthcare – NKMC
Expansion of cardiac cath services to include interventional (therapeutic) cardiac cath services

Please see the following Supplemental Information provided in response to the January 19, 2018 letter from Phillip M. Earhart, HSD Examiner, requesting clarification or additional information on the Certificate of Need Application CN1801-001 submitted to HSDA on January 10, 2018.

1. **Section A, Applicant Profile, Item 2, Page 1**

   The contact number for Clyde Wood is noted. However, the contact number listed in the Letter of Intent (865-859-1205) is different from the number listed in the application (862-632-5605). Please clarify.

RESPONSE: The correct contact number for Clyde Wood is 865-859-1205, which was listed in the Letter of Intent. Also, for clarification, the fax number for Clyde Wood is 865-859-1229.

2. **Section A, Executive Summary, Item 3.A.1 (Description) Page 3**

   It is noted Physician Regional Medical Center's (PRMC's) cath services are highly utilized (151.5% for the most recent 3-year period). However, please provide the percentage of PRMC's cath services referenced for the 3 year period that are classified as diagnostic and/or therapeutic. What is the average time required to complete a diagnostic and therapeutic cath case respectively?

RESPONSE: The following chart provides the percentage of PRMC's cath services utilization referenced for the 3-year period (2013-2015) as shown in Table 11 (p. 36) of the application. (Please also see Attachment B-Need-A.8 for details of the diagnostic and therapeutic split of procedures in PRMC's cath labs.)

PRMC Cath Services Utilization by Type of Procedure, 2013-2015

Cardiac Cath Equivalents*	Diagnostic	Therapeutic	Total
Cardiac catheterization	3,529.0	564.0	4,093.0
Peripheral vascular cath	39.0	4,152.0	4,191.0
Electrophysiological studies	148.0	656.0	804.0
Total Caths	**3,716.0**	**5,372.0**	**9,088.0**
% of Total Caths by Type	**40.9%**	**59.1%**	**100.0%**

* Sources & Notes:
Tennessee Department of Health ("TDH"), Division of Policy, Planning and Assessment, Office of Healthcare Facility Statistics; Certificate of Need Cardiac Cath Calculations based on 2009 State Health Plan Standards.
*Highest weighted cardiac cath services provided based on TDH Hospital Discharge Data System 2013-2015 recorded procedure level codes (CPT) and service categories.

The total average times to complete cases are 60 minutes for a diagnostic cath case and 90 minutes for a therapeutic cath case, including procedure time and room turnaround time.

3. **Section A, Executive Summary, Item B.1 (Rational for Approval) Page 5**

It is noted North Knoxville Medical Center (NKMC) transfers approximately 400 ED and inpatients annually from its hospital who would benefit from the proposed interventional cardiac cath service. Please complete the following chart indicating where those 400 patients were referred for interventional cardiac services for the year 2017.

RESPONSE: Please see the table below.

Name of Hospital	County	# of patients referred (2017)		Open Heart Surgery Capability (Y or N)
		ED	Inpatient	
Physicians Regional Medical Center	Knox	130	193	Yes
Turkey Creek Medical Center	Knox	10	15	Yes
University of Tennessee Med. Center	Knox	8	6	Yes
Fort Sanders Regional Medical Center	Knox	5	6	Yes
Vanderbilt University Hospital	Davidson	4	0	Yes
East Tennessee Children's Hospital	Knox	1	0	No
Parkwest Medical Center	Knox	1	0	Yes
Unknown/Other	N/A	2	2	N/A
Total	**N/A**	**161**	**222**	**N/A**

Sources & Notes:
Tennova Healthcare-NKMC internal data.
ED data is for January 1, 2017 through December 17, 2017.
Inpatient data is for most recent 12-month period for which data is available, *i.e.*, Nov. 2016-Oct 2017.

4. **Section A, Executive Summary, Item B.4 (Orderly Development) Page 7**

Please provide any letters of support from cardiologists supporting the addition of interventional cardiac procedures at NKMC.

RESPONSE: Please see Attachment 1 for letters of support.

5. **Section A. Executive Summary, Item I 6B (1) Plot Plan**

   The plot plan is noted. However, please provide the size of site (in acres) and location of structure on the site and submit a revised plot plan.

RESPONSE: Please see Attachment 2 for revised plot plans showing the size of the site (in acres) and location of the structure on the site.

6. **Section B. 1. Need (Specific Criteria - Cardiac Catheterization) Item 3**

   The transfer agreement with Physician Regional Medical Center and Turkey Creek is noted. Please complete the following table.

RESPONSE: See the table below. *Please note*: NKMC does not have information in hand on the ultimate medical and procedure-level discharge disposition of the nearly 400 cardiac patients transferred annually from its Emergency Department ("ED") and inpatient units. However, it must be noted that generally, the cardiac patients are transferred specifically because the physician(s) at NKMC expect that the patient will require an interventional cardiac cath procedure, and NKMC does not have that capability. Thus, it is reasonable to assume that the vast majority, if not all, of the cardiac patients transferred from NKMC to a provider with interventional cardiac cath capability received an interventional cath at the receiving facility.

Hospital	Distance From NKMC	Emergency Travel Time from NKMC to Hospital by ground	2017 # Transfers for open heart surgery*	2017 # Transfers for therapeutic caths
Physician Regional Med. Center	7.8 miles	17 minutes	44	323
Turkey Creek Medical Center	19.7 miles	25 minutes	0	25

Sources & Notes:
Tennova Healthcare-NKMC internal data and Google Maps.
*Number of patients is based on 37 inpatient transfers for 12-month period Nov. 2016-Oct. 2017 (most recent data available) and 7 open heart surgery transfers directly from the ED in CY2017.
Travel time for EMS is estimated based on average travel time, without consideration of the ability of EMS to use lights and sirens; thus, the times may be slightly overstated for emergency transport.

7. **Section C. 1. Need (Specific Criteria - Therapeutic Cardiac Catheterization) Item 14**

   The applicant has only provided Year One and Year Two projected utilization. However, annual volume shall be measured upon a two year average beginning at the conclusion of the applicant's first year of operation. Please revise.

RESPONSE: The following forecasts for Project Years 1 – 3 are based on the service area cardiac cath patients at PRMC (currently cared for by ETHC interventional cardiologists

performing cath procedures at NKMC) who would likely shift from PRMC to NKMC by Project Year 3.

NKMC Projected Cardiac Cath Volume, Project Years 1 – 3			
Calculations	**Year 1**	**Year 2**	**Year 3**
Service Area Cardiac Cath Diagnostic Patients Expected to Shift from PRMC to NKMC (*% multiplied by actual CY17 volume presented in CON Table 4, CON p. 25)*	40%	50%	55%
Equals Projected Diagnostic Caths	305	381	419
Plus Therapeutic Caths	101	126	138
***Equals* Total Projected Cardiac Caths**	**406**	**507**	**557**
Therapeutic Caths as % of Total Caths	25%	25%	25%

NKMC's forecast is conservative because it assumes that just over half of the identified ETHC interventional cardiologists' service area outpatients served will choose to receive care at NKMC rather than PRMC. Realistically, a larger percent of service area patients than forecasted in Project Years 1 – 3 will likely prefer to receive cardiac cath services closer to their homes in an easily accessible location outside of downtown Knoxville, on a more consumer-friendly campus than PRMC. Additionally, emergency medical services (ambulances) that currently bypass NKMC because it does not have therapeutic cardiac cath capabilities will no longer do so, resulting in increased patient volume above that considered in the redirection scenarios above.

Another reasonableness test regarding projected volume is to determine the percentage of the identified physicians' service area patients NKMC projects to shift from PRMC. To that end, the following table shows the total number of cardiac caths performed by Drs. Akhtar, Chaudhry, Cox, Irivbogbe, Michelson, and Treasure in CY2017 (through December 17th) on service area residents, regardless of the hospital campus at which the procedure was performed. As shown, the forecasted volume of redirected patients for these ETHC interventional cardiologists represents a small percentage of the physicians' total historical volume, further supporting NKMC's ability to meet the minimum volume standards for therapeutic cardiac cath services.

Select Physicians' Projected Year 3 NKMC Volume as a % of the Physicians' Current Cath Volume (CY2017)			
Calculations	**Diagnostic Cardiac Cath**	**Therapeutic Cardiac Cath**	**Total Cardiac Caths**
Select Physicians' Total Cardiac Caths provided to Service Area Residents, CY17*	1,784	1,119	2,903
Divided by Projected Year 2 Caths, NKMC (*see* prior analyses)	419	138	557
Equals % of Physicians' Total Service Area Caths provided at NKMC, Project Year 2	23.5%	12.3%	19.2%
Sources & Note: Tennova Healthcare internal data available for January 1 through December 19, 2017. *Includes service area inpatient and outpatient cardiac caths performed at the three Tennova Hospital campuses (PRMC, Turkey Creek, and NKMC) combined.			

8. **Section C. 1. Need (Specific Criteria - Therapeutic Cardiac Catheterization) Item 15**

   Please clarify if a formal transfer agreement with an open heart tertiary center will be maintained. If so, please indicate the name of the open heart tertiary center.

RESPONSE: NKMC will maintain its formal transfer agreement with PRMC and Turkey Creek in the short-term. However, in the long-term, NKMC will maintain a formal transfer agreement with Turkey Creek Medical Center, as PRMC will transition from an open heart tertiary center to a specialized campus focused on a select group of services that will ultimately exclude open heart surgical services.

9. **Section C.1. Need, (Specific Criteria, Therapeutic Cardiac Catheterization) Item 16**

   Please provide the following information for the NKMC cardiologists that will perform the proposed cardiac therapeutic catheterizations: 1) estimated number of diagnostic cardiac procedures conducted for each of the past five (5) years, and 2) the estimated number of therapeutic cardiac procedures conducted for each of the past five (5) years.

   Please provide the names and credentials (i.e., curriculum vitae's and Board Certificates) for the physicians on the hospital's medical staff who will be performing these procedures. Please note those physicians who are board certified invasive and/or interventional cardiologists.

RESPONSE: Please see the following table for the requested information. Note that NKMC has provided the most recent three years of data available for the physicians; information for the past five years is not available. Physicians' Curriculum Vitae were provided with the

application for select physicians (*see* Attachment B-Need-A.16). Additional CVs are included in Attachment 3.

NKMC Cardiologists' Volume who will Perform Proposed Therapeutic Cardiac Catheterizations

Physician	Board-Certifications	2015		2016		2017	
		Diag.	Thera-peutic	Diag.	Thera-peutic	Diag.	Thera-peutic
Yasir Akhtar, MD	Interventional Cardiology, Cardiovascular Disease, Internal Medicine-General	379	226	433	272	514	355
Fahd Chaudhry, MD	Interventional Cardiology, Cardiovascular Disease, Internal Medicine-General	N/A	N/A	34	14	318	128
David Cox, MD	Cardiovascular Disease, Internal Medicine-General	171	60	148	52	169	39
Osareme Irivbogbe, MD	Interventional Cardiology, Cardiovascular Disease, Internal Medicine-General	N/A	N/A	71	38	347	166
Barry Michelson, MD	Interventional Cardiology, Cardiovascular Disease, Internal Medicine-General	178	81	181	98	205	109
Charles Treasure, MD	Interventional Cardiology, Cardiovascular Disease, Internal Medicine-General	195	29	158	35	172	30

Sources & Notes:
Tennova Healthcare internal data.
Physicians with a N/A shown were not on the hospital's medical staff for the time period indicated.

10. Section B, Need, Item E, Page 36

Table 11 on page 36 indicating the service area cardiac cath lab utilization is noted. However, please clarify the reason(s) the 2016 Joint Annual Reports indicates 4 cath labs rather than 3 for PRMC, and 4 cath labs instead of 1 for NKMC as reflected in table 11. If there is an error in the number of labs reported in table 11, please adjust the utilization in table 11 and submit a replacement page 36 (labeled as 36R).

The cardiac cath equivalents total of 9,088 is noted for Tennova Healthcare (PRMC) in table 11. However, when the cardiac formula is applied to the reported cardiac cath utilization in the 2016 Joint Annual Report the grand weighted total for PRMC is 3,982. Please explain the discrepancy.

RESPONSE: Table 11 on page 36 of the application is correct, and is consistent with the information provided by the Tennessee Department of Health, Division of Policy, Planning and Assessment. (*See* Attachment B-Need-A.8). The data provided by the Tennessee Department of Health ("TDH" or "Department of Health") is based on catheterization ICD-9,

ICD-10 CPT codes and service categories provided by the Bureau of TennCare and the Tennessee Hospital Association for the 2013-2015 time period. During that three-year timeframe, PRMC had 3 cath labs, as was reported on the relevant years' Joint Annual Reports ("JAR").

PRMC added a fourth cardiac cath lab in 2016, as reflected in its 2016 JAR. Thus, the historical utilization for 2013-2015 is not affected by the more recent addition of a 4th cath lab at PRMC. Notably, however, if the 2013-2015 three-year cath lab equivalents of 9,088.0 were divided by the total capacity of 4 cath labs (*i.e.*, 8,000 total weighted cases per year), PRMC's utilization for the most recent three-year period would still far exceed the 70% utilization threshold, with a three-year utilization of 113.6%.

NKMC reported one (1) cardiac cath lab in its 2016 JAR, as indicated in Attachment 4, which is the excerpted page from NKMC 2016 JAR. Table 11 on CON p. 36 accurately states that NKMC operates 1 cardiac cath lab (as reflected in the architectural drawings included in the CON application).

Regarding the comparison between the data reported in the 2016 JAR for PRMC and the utilization calculations completed by the Department of Health, a comparison of the data is apples and oranges. TDH uses the highest weighted procedure-level CPT code to determine the procedure category for each patient which does not necessarily align with the hospital's grouping of each case as reported in the 2016 JAR categories.

Moreover, the 2016 JAR Schedule D Cardiac Service format has been simplified compared to prior year JARs, reducing the categories available for providers to use in identifying cases performed in their cath labs. While the new JAR format aligns with the categories listed in the cardiac cath rules to determine procedure equivalents, the 2016 JAR no longer includes the broadly defined "all other heart procedures" category. Thus, providers, including PRMC, are not able to include all types of cath procedures performed in their cath labs.

In summary, the reformatting of the current JAR reporting (that is manually completed by hospitals) compared to the electronically submitted patient-level CPT data submitted to TDH means that the data collected in each instance differs in the level of detail and thus, comprehensiveness. NKMC appropriately relied on the patient-level detail reported to the Department of Health to determine utilization of existing cardiac cath services in the defined 11-county region.

11. Section B, (Economic Feasibility) Item A. Project Costs Chart, Page 39

The moveable equipment cost of $117,225 is noted. However, please list all equipment over $50,000.

RESPONSE: NKMC's modernization and upgrade of the existing cath lab requires only the purchase of an integrated precision guided therapy system with Phased Array IVUS and FFR (at the cost of $117,225) to supplement the existing cath lab's equipment. (*See* the equipment quote in Attachment B-Economic Feasibility-A.3 in the application.) No other equipment is needed, *e.g.*, the hospital already has a balloon pump, which is used for transport of cardiac patients.

12. Section B, Economic Feasibility, Item C Historical Data Charts

Historical Data Chart (Total Facility) Pages 41 and 42
The Historical Data Chart is noted. Please also include the number of patient days for 2014, 2015, and 2016. It also appears the total deduction column for 2016 totaling $469,407,000 totals $469,497,000. Please correct and submit a replacement page 41.

Please explain why charity care declined from $1,251,000 in 2014 to $427,000 in 2016 while gross operating revenue increased during the same time frame.

Please indicate the reason management fees decline from $2,481,000 in 2014 to $1,025,000 in 2016.

Historical Data Chart (Project Only) Pages 43 and 44
Please explain the reasons there are no Provision for both charity care and bad debt in the Historical Data Chart.

RESPONSE: Please see Attachment 5 for the revised page 41, showing historical patient days and the corrected typographical error in the 2016 total deduction column.

NKMC's charity policy changed in 2014 with the acquisition by Community Health Systems ("CHS"). Policy changes were principally comprised of the following: 1) focus on inpatient and ED patients; 2) change in qualifications of uninsured, as defined in health care reform regulations; 3) more stringent charity care qualifications; and, 4) case-by-case application in place of expiration-based approvals.

NKMC's management fees changed with the acquisition by CHS in 2014. Management fees are derived from unallocated corporate costs that declined between 2014 and 2016.

Deductions from revenue are not tracked at the service line level. For purposes of the Project Only Projected Data Charts, estimates of charity care and bad debt were projected based upon Facility-wide historical experience and Project Only payor mix.

13. Section B, Economic Feasibility, Item D (Projected Data Charts)

Please indicate the calendar years associated with Year One and Year Two of the proposed project.

The Projected Data Chart for the total facility on page 46 is noted. However, please include the number of patient days in the "A. Utilization Data" line and submit a replacement page 46 (labeled as 46R).

The Projected Data Chart for the Project Only on page 48 is noted. However, Year 2 Total Operating Expense totaling $2,147,500 appears to be incorrect. Please correct and submit a replacement page 48 (labeled as 48R).

RESPONSE: Project Year 1 is CY2019 and Project Year 2 is CY2020.

Please see Attachment 6 for Replacement page 46 (46R). Attachment 7 includes the Replacement Projected Data Chart pages 48 and 49, reflecting a corrected Other Operating Expenses of $124,500. Year Two Total Operating Expenses totaling $2,147,500 remain unchanged.

14. Section B. (Economic Feasibility) Question E. (1)

The gross charge, deduction from revenue, and average net charge for Year One and Year Two appears to be incorrect. Please verify the following figures for Year One and Year Two of the proposed project.

	Year One	Year Two
Gross Charge	$44,768	$46,098
Deduction from Revenue	$37,158	$38,261
Average Net Charge	$7,610.83	$7,836

RESPONSE: The above calculations are correct.

15. Section B. (Economic Feasibility) Question E. (2)

Please compare the proposed cardiac therapeutic catheterization charges to other hospitals in the proposed service area including PRMC and Turkey Creek.

RESPONSE: Because the proposed Project establishes new therapeutic cardiac catheterization services at NKMC, the proposed Project incorporates average charge profiles from Tennova providers PRMC and Turkey Creek, as well as other service area therapeutic provider charge information (as available), adjusted for service area payor mix and service types. Moreover, projected net payment per case is based upon anticipated third-party payment rates for the proposed service area payor mix and anticipated market changes.

NKMC's average charges by catheterization category (diagnostic and therapeutic) for Project Year One are summarized in the below table:

Catheterization Category	Cases	Avg. Charges
Diagnostic	305	$ 29,895
Therapeutic	101	$ 89,685
Total	**406**	**$ 44,768**

Since NKMC's proposed program is a new service with a charge profile commensurate to Tennova hospitals PRMC and Turkey Creek, NKMC prepared a charge analysis comparing these Tennova facilities charges to other service area hospitals. Due to outpatient market data availability limitations, NKMC compared average charges per case for inpatient therapeutic cases (defined as MS-DRGs 246-251) by provider, summarized in the below table.

Hospital	Avg. Charges
Fort Sanders Regional	$ 55,200
Parkwest Medical Center	$ 46.900
Methodist Medical – Oak Ridge	$ 50,100
Tennova Healthcare	$101,600
University of TN	$ 72,500
Source: CMS Medicare Provider Data, FY2015.	

16. Section C. (Economic Feasibility) Question F (2) Page 51

The Net Operating Margin Ratios appear to be calculated incorrectly in the table on page 51. Please verify the following table.

2nd Year previous to Current Year	1st Year previous to Current Year	Projected Year One	Projected Year Two
11.2%	5.2%	40.6%	45.9%

RESPONSE: The above calculations for the Project Only are correct.

17. Section B, Economic Feasibility, Item F (3) Page 51

The capitalization ratio of 89.5 is noted. However, please indicate how it was calculated.

RESPONSE: The capitalization ratio for Community Health Systems, Inc. and Subsidiaries as reflected in the Consolidated Balance Sheets as of December 31, 2016 is calculated as follows:

- *Formula*: (Long Term Debt /(Long Term Debt + Total Equity)) * 100.
- *Data*: (14,789/(14,789+1,728)*100) = 89.5.

18. Section B, Economic Feasibility, Item H, Page 52

It is noted the project will employ 2.0 RNs and 2 Techs in Year One of the proposed project. However, please clarify if $402,600 in the Projected Data Chart equals the salaries for those 4 positions.

RESPONSE: The Project Only Year One expense of $402,600 includes salaries and benefits expenses for 2 RNs and 4 Techs, a total of 6 positions, as follows:

Factor	FTEs	Avg. Hourly Wage	Amount
RNs	2.0	$30	$124,800
Techs	4.0	$23	$191,300
Subtotal	6.0	$25	$316,100
Add: Benefits @ 27.4%			$ 86,500
Salaries & Benefits			**$402,600**

19. Section B, Contribution to Orderly Development, Item E.2 Page 57

Please provide a brief overview of Community Health System's corporate integrity agreement dated July 28, 2014.

RESPONSE: In July 2014, Community Health Systems, Inc. entered into a Corporate Integrity Agreement with the Office of Inspector General of the Department of Health and Human Services in connection with the resolution of certain lawsuits. The Agreement requires the company to engage in various compliance efforts for five years. A copy of the Corporate Integrity Agreement can be found at https://oig.hhs.gov/fraud/cia/agreements/Community_Health_Systems_07282014.pdf.

20. Section B, Contribution to Orderly Development Item F (2) Outstanding Projects

Please provide a brief description of the current progress of CN1206-027AMM.

RESPONSE: The project is underway, including for example, delivery of the chiller in late December, which will be installed by the end of January 2018. The floor pad is being poured late January 2018, with final site review by Siemens expected by the end of the same month. The PET/CT will be delivered to NKMC early February 2018, with calibration of the system and training of staff completed by the end of February so that initiation of services is expected by March 1, 2018.

21. Section B, Quality Measures

Please verify and acknowledge the applicant will be evaluated annually whether the proposal will provide health care that meets appropriate quality standards upon the following factors:

(3) Quality. Whether the proposal will provide health care that meets appropriate quality standards may be evaluated upon the following factors:

(a) Whether the applicant commits to maintaining staffing comparable to the staffing chart presented in its CON application;

(b) Whether the applicant will obtain and maintain all applicable state licenses in good standing;

(c) Whether the applicant will obtain and maintain TennCare and Medicare certification(s), if participation in such programs was indicated in the application;

(d) Whether an existing healthcare institution applying for a CON has maintained substantial compliance with applicable federal and state regulation for the three years prior to the CON application. In the event of non-compliance, the nature of non-compliance and corrective action shall be considered;

(e) Whether an existing health care institution applying for a CON has been decertified within the prior three years. This provision shall not apply if a new, unrelated owner applies for a CON related to a previously decertified facility;

(f) Whether the applicant will participate, within 2 years of implementation of the project, in self-assessment and external assessment against nationally available benchmark data to accurately assess its level of performance in relation to established standards and to implement ways to continuously improve.

1. This may include accreditation by any organization approved by Centers for Medicare and Medicaid Services (CMS) and other nationally recognized programs. The Joint Commission or its successor, for example, would be acceptable if applicable. Other acceptable accrediting organizations may

include, but are not limited to, the following:

(ix) Joint Commission or another appropriate accrediting authority recognized by CMS, or other nationally recognized accrediting organization, for a Cardiac Catheterization project that is not required by law to be licensed by the Department of Health;

(h) For Cardiac Catheterization projects:

1. Whether the applicant has documented a plan to monitor the quality of its cardiac catheterization program, including but not limited to, program outcomes and efficiencies;

2. Whether the applicant has agreed to cooperate with quality enhancement efforts sponsored or endorsed by the State of Tennessee; and

3. Whether the applicant will staff and maintain at least one cardiologist who has performed 75 cases annually averaged over the previous 5 years (for an adult program), and 50 cases annually averaged over the previous 5 years (for a pediatric program).

RESPONSE: The applicant confirms that it will be evaluated annually whether the proposal provides health care that meets the appropriate quality standards based upon the above factors.

Supplemental #1
January 25, 2018
1:42 PM

AFFIDAVIT

STATE OF TENNESSEE

COUNTY OF WILLIAMSON

NAME OF FACILITY: NORTH KNOXVILLE MEDICAL CENTER

I, Martin G. Schweinhart, President of Metro Knoxville HMA, LLC, after first being duly sworn, state under oath that I am the applicant named in this Certificate of Need application or the lawful agent thereof, that I have reviewed all of the supplemental information submitted herewith, and that it is true, accurate, and complete.

Signature/Title

Sworn to and subscribed before me, a Notary Public, this the 24th day of January, 2018, witness my hand at office in the County of Williamson, State of Tennessee.

NOTARY PUBLIC

My commission expires 9-16, 2019.

MARY ANN ECKMAN
STATE OF TENNESSEE NOTARY PUBLIC
WILLIAMSON COUNTY
My Commission Expires 09-16-2019

HF-0043

Revised 7/02

Supplemental #1
January 25, 2018
1:42 PM

Attachment 1 – Supplemental Information

Physician Letters of Support

Supplemental #1
January 25, 2018
1:42 PM

East Tennessee Heart Consultants

900 East Oak Hill Avenue
Suite 500 & 600
Knoxville, TN 37917
Phone: (865) 647-5800– Fax: (865) 525-0245

Y.N. Akhtar, M.D.
R. Hottigoudar, M.D.
B.I. Michelson, MD., F.A.C.C
M. Barb, PA-C
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C.T. Doiron, M.D., F.A.C.C.
K.W. McCoy, M.D., F.A.C.C.
C.B. Treasure II, M.D., F.A.C.C.

January 24, 2018

Phillip M. Earhart, HSD Examiner
Tennessee Health Services and Development Agency
Andrew Jackson Building, 9th Floor
502 Deaderick Street
Nashville, TN 37243

RE: Certificate of Need Application CN1801-001
Metro Knoxville HMA, LLC d/b/a Tennova Healthcare – North Knoxville Medical Center
Expansion of existing diagnostic cardiac cath services to include interventional (therapeutic) cardiac cath services

Dear Mr. Earhart,

I am writing this letter to show my support for the aforementioned project at North Knoxville Medical Center (NKMC). I am a Board-certified in Interventional Cardiologist with 4 yrs of experience working in and caring for patients in the greater Knoxville area. I intend to provide interventional cardiac cath services at NKMC upon approval of this project.

The location of NKMC provides a more convenient, and accessible, point of service for patients in need of interventional cardiac procedures. The approval to provide therapeutic cardiac cath services in NKMC's existing diagnostic cardiac cath lab will provide a more immediately accessible point for patients to receive intervention, which will ultimately enhance patient's quality of care since 'time is muscle'. As the provision of therapeutic cardiac caths without on-site OHS backup has become an accepted standard within the medical community, the ability to provide this care in a timelier manner and without the additional cost of transportation offers significant benefit to cardiac patients.

NKMC transfers a substantial number of ED and inpatients annually from its hospital who would benefit from the proposed interventional cardiac cath service. The high number of patients who must be transported to another facility for therapeutic cath services reflects the reliance of service area patients on NKMC for inpatient, outpatient, and emergency services. Moreover, the proposed Project requires a limited investment in additional equipment and no facility renovation or expansion that would require new construction.

Tennova Healthcare

Supplemental #1
January 25, 2018
1:42 PM

As a physician currently on the staff of NKMC, I can unequivocally state this project would provide tremendous benefit to patients in the service area. Thank you for your consideration.

Regards,

YASIR AKHTAR

Tennova Healthcare

Supplemental #1
January 25, 2018
1:42 PM

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Suite 500 & 600
Knoxville, TN 37917
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Tennova Healthcare

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Regards,

O. A. IRIVBOGBE MD

Tennova Healthcare

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Expansion of existing diagnostic cardiac cath services to include interventional (therapeutic) cardiac cath services

Dear Mr. Earhart,

I am writing this letter to show my support for the aforementioned project at North Knoxville Medical Center (NKMC). I am a Board-certified Interventional Cardiologist with 25+ of experience working in and caring for patients in the greater Knoxville area. I intend to provide interventional cardiac cath services at NKMC upon approval of this project.

The location of NKMC provides a more convenient, and accessible, point of service for patients in need of interventional cardiac procedures. The approval to provide therapeutic cardiac cath services in NKMC's existing diagnostic cardiac cath lab will provide a more immediately accessible point for patients to receive intervention, which will ultimately enhance patient's quality of care since 'time is muscle'. As the provision of therapeutic cardiac caths without on-site OHS backup has become an accepted standard within the medical community, the ability to provide this care in a timelier manner and without the additional cost of transportation offers significant benefit to cardiac patients.

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Tennova Healthcare

As a physician currently on the staff of NKMC, I can unequivocally state this project would provide tremendous benefit to patients in the service area. Thank you for your consideration.

Regards,

Barry Michelson M.D.

Tennova Healthcare

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January 25, 2018
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Tennova Healthcare

Supplemental #1

January 25, 2018

1:42 PM

As a physician currently on the staff of NKMC, I can unequivocally state this project would provide tremendous benefit to patients in the service area. Thank you for your consideration.

Regards,

Curt T. Doisoy, MD, FACC

Tennova Healthcare

Supplemental #1
January 25, 2018
1:42 PM

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Suite 500 & 600
Knoxville, TN 37917
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Dear Mr. Earhart,

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Tennova Healthcare

Supplemental #1

January 25, 2018

1:42 PM

As a physician currently on the staff of NKMC, I can unequivocally state this would provide tremendous benefit to patients in the service area. Thank you for your consideration.

Regards, David A. [illegible] MD, FACC

Tennova Healthcare

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January 25, 2018
1:42 PM

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Dear Mr. Earhart,

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M. Barb, PA-C | *E. Dickenson, PA-C*

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Tennova Healthcare

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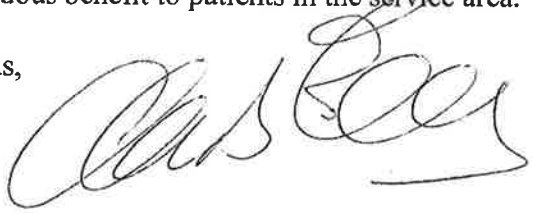
Regards,

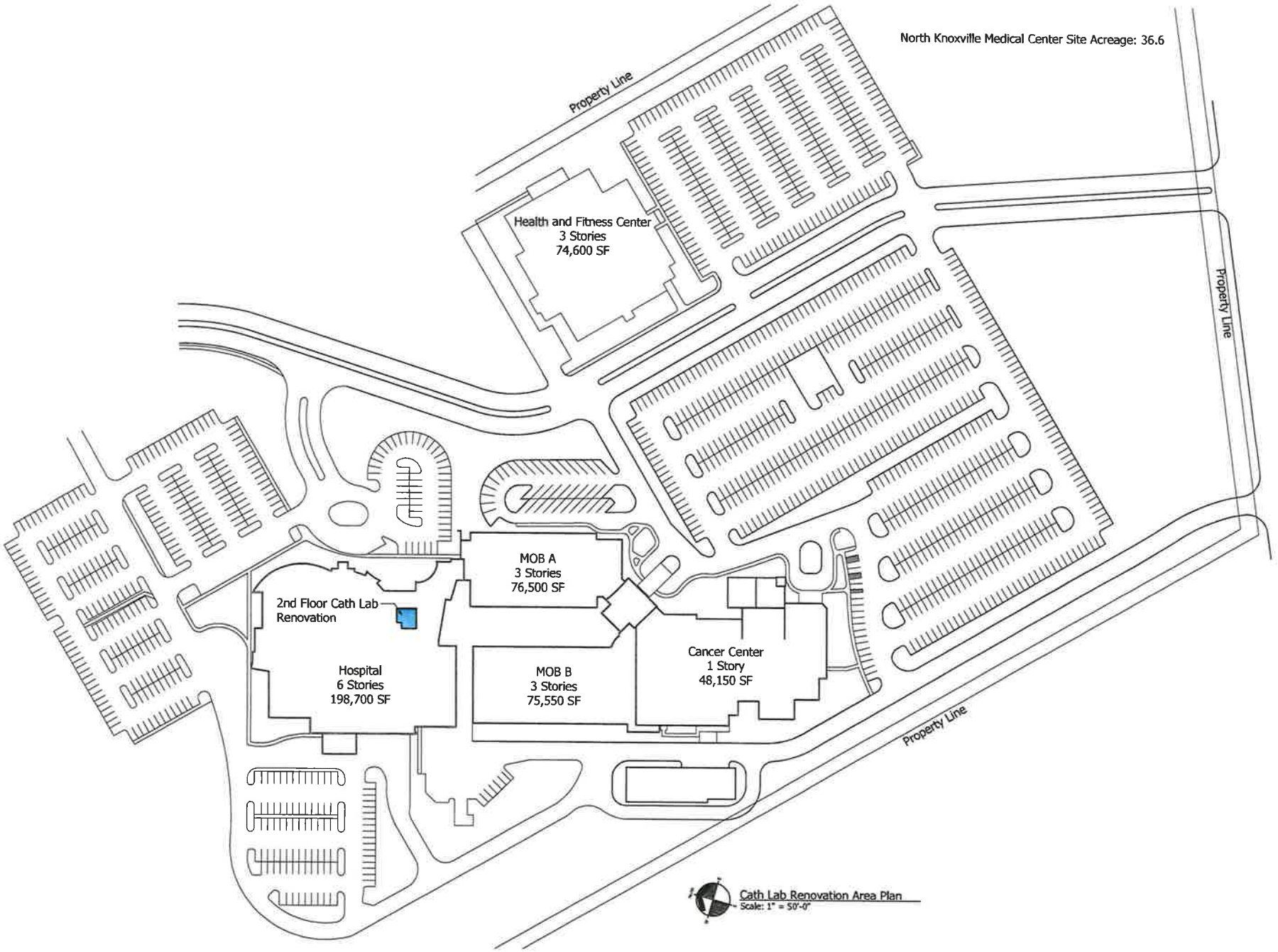


Tennova Healthcare

Supplemental #1
January 25, 2018
1:42 PM

Attachment 2 – Supplemental Information

Revised Plot Plans



Cath Lab Renovation Area Plan
Scale: 1" = 50'-0"

Tennova

Knoxville Tennessee

Cath Lab Renovation
Area plan

Revisions

Supplemental #1

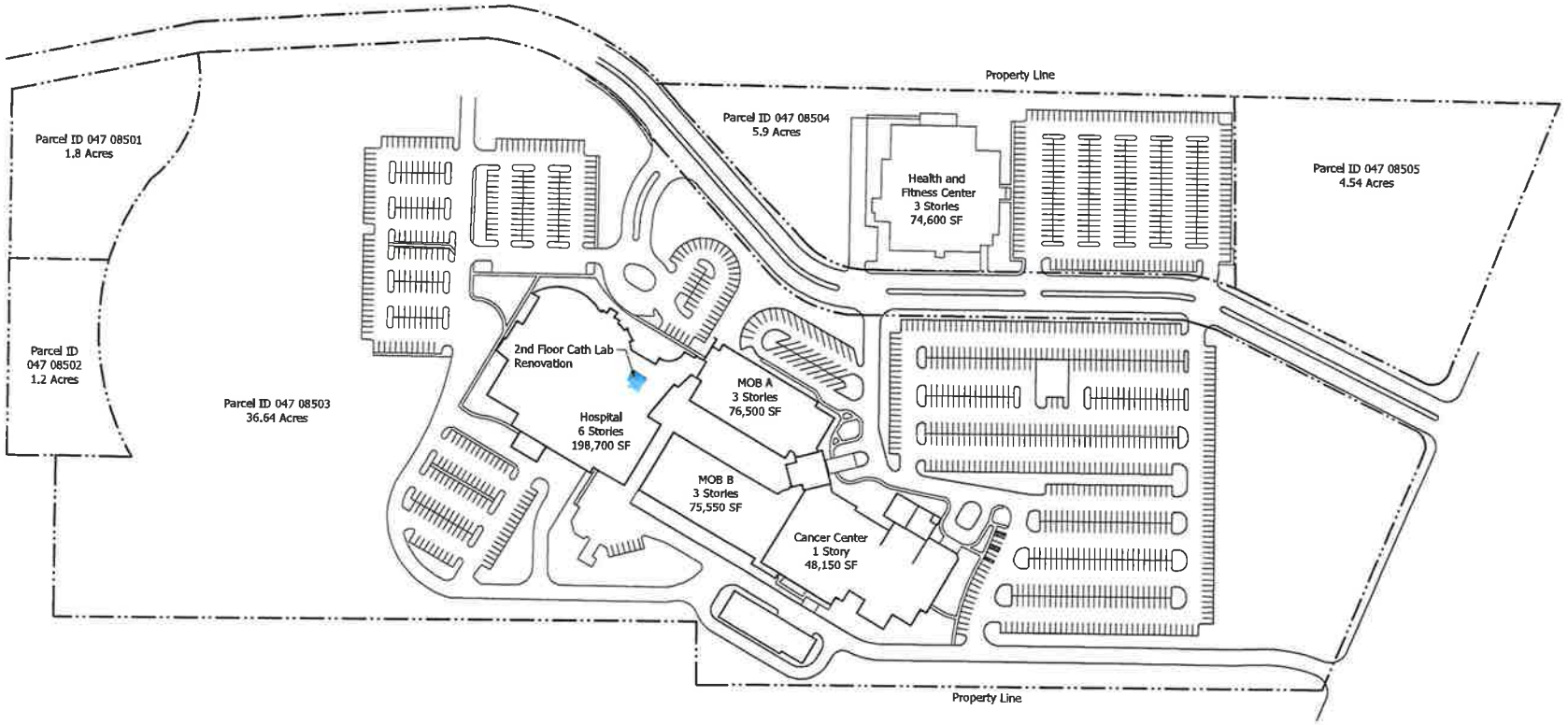
January 25, 2018

1:42 PM

Project Number
COM.1714

Date
February 23, 2018

Sheet Number
sd1.2



Cath Lab Renovation Area Plan
Scale:1 : 900

Tennova

Knoxville Tennessee

Cath Lab Renovation
Area plan

Revisions

Supplemental #1
January 25, 2018

1:42:44 PM

HALL ARCHITECTURE

Project Number
COM.1714

Date
February 23, 2018

Sheet Number
sd1.2

Supplemental #1
January 25, 2018
1:42 PM

Attachment 3 – Supplemental Information

Physicians' Curriculum Vitae

Supplemental #1
January 25, 2018
1:42 PM

Michelson, Barry I., M.D.

RESIDENCY

Chief Resident Internal Medicine 07/87 - 06/88

D.C. General Hospital
Georgetown Medical Service
19th St. and Massachusetts Avenue S.E.
Washington, D.C. 20003

FELLOWSHIP

Interventional Cardiology 07/91 - 06/92

University of Maryland Hospital
22 S. Greene Street
Baltimore, Maryland 21201

TEACHING APPOINTMENTS

Clinical Instructor in Medicine 07/87 - 06/88

Georgetown University School of Medicine
D.C. General Hospital
19th and Massachusetts Avenue S.E.
Washington, D.C. 20003

Assistant Instructor in Medicine 07/81 - 06/92

Division of Cardiology
University of Maryland School of Medicine
22 S. Greene Street
Baltimore, Maryland 21201

Supplemental #1
January 25, 2018
1:42 PM

Michelson, Barry I., M.D.

REFERENCES

Andrew Ziskind, M.D.
Director Cardiac Catheterization Lab
University of Maryland Hospital
N3W77
22 S. Greene Street
Baltimore, Maryland 21201

Paul Gurbel, M.D.
Director of Interventional Cardiology
University of Maryland Hospital
N3W77
22 S. Greene Street
Baltimore, Maryland 21201

Robert Hobbs, M.D.
Desk F25
Cleveland Clinic Foundation
9500 Euclid Avenue
Cleveland, Ohio 44195

Supplemental #1
January 25, 2018
1:42 PM

LICENSURE AND CERTIFICATION

Maryland	#D41549	April 8, 1991	Active
Ohio	#58237	May 19, 1989	Active
D.C.	#16634	June, 1987	Inactive
Virginia	#40313	October 31,1986	Active

Tennessee - Applied

Supplemental #1
January 25, 2018
1:42 PM

AMA PHYSICIAN PROFILE

AMERICAN MEDICAL ASSOCIATION
535 NORTH DEARBORN STREET
CHICAGO, ILLINOIS 60610

DIVISION OF SURVEY AND DATA RESOURCES
DEPARTMENT OF PHYSICIAN DATA SERVICES

DATE: 06-28-89
TIME: 8:16 PM

NAME: COX,DAVID ALLAN, M.D.
ADDRESS: VANDERBILT UNIV MED CTR
NASHVILLE TN 37232
BIRTHPLACE: JOHNSON CITY,TN
BIRTHDATE: 04/29/56
MEMBER OF AMA: NOT MEMBER
MEDICAL SCHOOL
DUKE UNIV SCH OF MED, DUKE UNIV MED CTR, DURHAM NC 27710
YEAR OF GRADUATION: 1982
LICENSES (INITIAL YEAR GRANTED BY STATE):
MA 1986
NATIONAL BOARD CERTIFICATION: 1983
SPECIALTY BOARD CERTIFICATION: AMERICAN BOARD OF INTERNAL MEDICINE

PHYSICIAN'S PROFESSIONAL ACTIVITIES: RESIDENT
SELF DESIGNATED SPECIALTIES
PRIMARY: CARDIOVASCULAR DISEASES
SECONDARY: UNSPECIFIED
TERTIARY: UNSPECIFIED

CURRENT MEDICAL TRAINING:	NONE REPORTED TO DATE		
PRIOR MEDICAL TRAINING:	RESIDENT		
HOSPITAL:	BRIGHAM-WOMENS HOSP	BOSTON MA	02115
DATES OF TRAINING:	07/83-06/85 -- (CONFIRMED)		
SPECIALTY:	INTERNAL MEDICINE		
SPECIALTY:	UNSPECIFIED		
PRIOR MEDICAL TRAINING:	INTERN		
HOSPITAL:	BRIGHAM-WOMENS HOSP	BOSTON MA	02115
DATES OF TRAINING:	07/82-06/83 -- (CONFIRMED)		
SPECIALTY:	INTERNAL MEDICINE		
SPECIALTY:	UNSPECIFIED		
FELLOWSHIP: CLINICAL			
HOSPITAL:	BRIGHAM-WOMENS HOSP	BOSTON MA	02115
DATES OF TRAINING:	07/85-06/87 -- (CONFIRMED)		
SPECIALTY:	CARDIOVASCULAR DISEASES		
SPECIALTY:	UNSPECIFIED		

THE FOLLOWING IS HISTORICAL. CHECK WITH PRIMARY SOURCES FOR CURRENT STATUS:

NATIONAL SCIENTIFIC MEDICAL SOCIETIES: NONE REPORTED TO DATE

PROFESSORIAL APPOINTMENT: NONE REPORTED TO DATE

 ****AMA FILES CHECKED

07

Supplemental #1
January 25, 2018
1:42 PM

CURRICULUM VITAE

NAME:	CLINT THOMAS DOIRON, M. D.
ADDRESS:	532 Old Tavern Circle Knoxville, Tennessee 37919
PHONE:	(615) 966-1373
BIRTHDATE:	November 17, 1950
BIRTHPLACE:	Beaumont, Texas
FAMILY STATUS:	Married, wife, Kristine; children, Luke, Allyson, Ashley

MEDICAL EDUCATION

MEDICAL SCHOOL:	The University of Texas Medical Branch at Galveston, 1972-1976
POSTGRADUATE TRAINING:	Internship and Medical Residency at Scott and White Memorial Hospital and Texas A&M University Hospitals, 1976-1979. Cardiology Fellowship at Baylor University Medical Center, Dallas, Texas, 1979-1981.
BOARD CERTIFICATION:	American Board of Internal Medicine in 1979. American Board of Cardiology in 1982.
1981-82:	Private practice at Willis-Knighton Medical Center in Shreveport, Louisiana.
CURRENT STATUS:	Cardiologist, East Tennessee Heart Consultants, P.C., January, 1983

CTD/mec
1/26/83

Supplemental #1
January 25, 2018
1:42 PM

Curriculum Vitae

References:

Michael Donsky, M.D., F.A.C.C.
Director, Invasive Laboratory
H.L. Hunt Heart Center
Baylor University Medical Center
3600 Gaston Avenue
Dallas, Texas 75246
Phone Number (214) 821-3333

Charles Gottlich, M.D., F.A.C.C.
Director, Non-invasive Laboratory
H.L. Hunt Heart Center
Baylor University Medical Center
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Dallas, Texas 75246
Phone Number (214) 821-3333

Arthur Trowbridge, M.D.
Professor of Medicine
Division of Hematology and Oncology
Scott and White Memorial Hospital
2401 S. 31 Street
Temple, Texas 76501
Phone Number (817) 774-2111

James L. Matson, M.D.
H.L. Hunt Heart Center
Baylor University Medical Center
3600 Gaston Avenue
Dallas, Texas 75246
Phone Number (214) 821-3333

Academic Appointments: Associate Clinical Professor of Cardiology
Louisiana State University Medical School
Shreveport, Louisiana

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January 25, 2018
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CLINT T. DOIRON, M.D.

Continuing Medical Education

Bowman Gray School of Medicine
"Eleventh Beach Workshop"
08-01-83 to 08-05-83

Emory University School of Medicine
"Demonstrations in Percutaneous Angioplasty"
09-16-84 to 09-20-84

Supplemental #1
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1:42 PM

Attachment 4 – Supplemental Information

NKMC 2016 JAR Excerpt Documenting 1 Cardiac Cath Lab

SCHEDULE D - SERVICES (continued)

47352 - Tennova Healthcare North Knoxville Medical Center

Utilization of Selected Services

D. Cardiac:

Number of Cath Labs 1

Date Cardiac Cath Lab Initiated 05/27/2015

A Case shall mean one visit to a surgical, laboratory, or another procedure room by one patient, regardless of the number of procedures performed during that visit. (See CON standards)

***Note: Pediatric = a patient less than 18 years of age.**

	Is This Service Provided In Your Hospital? Yes	No	Inpatient Cath Lab Setting Unit of Measure	Number	Outpatient Cath Lab Setting Unit of Measure	Number
Diagnostic Cardiac Catheterization	●	○	Adult Cases	58	Adult Cases	21
			Pediatric Cases	0	Pediatric Cases	0
Therapeutic Cardiac Catheterization	○	●	Adult Cases		Adult Cases	
			Pediatric Cases		Pediatric Cases	
Electrophysiological (EP) Study						
Diagnostic EP Study	○	●	Adult Cases		Adult Cases	
			Pediatric Cases		Pediatric Cases	
Therapeutic EP Study	●	○	Adult Cases	7	Adult Cases	8
			Pediatric Cases	0	Pediatric Cases	0
Peripheral Vascular Catheterization						
Diagnostic Peripheral Vascular	●	○	Adult Cases	0	Adult Cases	5
			Pediatric Cases	0	Pediatric Cases	0
Therapeutic Peripheral Vascular	●	○	Adult Cases	0	Adult Cases	7
			Pediatric Cases	0	Pediatric Cases	0
Thrombolytic Therapy	○	●	Adult Cases		Adult Cases	
			Pediatric Cases		Pediatric Cases	

			To Inpatients	To Outpatients
Open Heart Surgery			*Note: Pediatric = a patient less than 15 years of age.	
# dedicated O.R.'s	○	●	Adult Cases	
			Pediatric Cases	

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1:42 PM

Attachment 5 – Supplemental Information

Revised CON Page 41, Hospital-wide Historical Data Chart

Supplemental #1
January 25, 2018
1:42 PM

x Total Facility
□ Project Only

HISTORICAL DATA CHART

Give information for the last *three (3)* years for which complete data are available for the facility or agency. The fiscal year begins in **January** (Month).

		Year 2014	Year 2015	Year 2016
A.	Utilization Data (Specify unit of measure, e.g., 1,000 patient days, 500 visits) – **Discharges/Patient Days**	3,675/18,308	4,030/19,624	4,188/20,490
B.	Revenue from Services to Patients			
1.	Inpatient Services	$108,632,000	$136,772,000	$152,509,000
2.	Outpatient Services	239,146,000	290,541,000	336,048,000
3.	Emergency Services	49,636,000	63,414,000	69,323,000
4.	Other Operating Revenue (Specify)_non-operating revenue	3,780,000	3,985,000	1,337,000
	Gross Operating Revenue	**$401,194,000**	**$494,712,000**	**$559,217,000**
C.	Deductions from Gross Operating Revenue			
1.	Contractual Adjustments	$309,470,000	$399,182,000	$457 603 000
2.	Provision for Charity Care	1,251,000	125,000	427,000
3.	Provisions for Bad Debt	10,241,000	11,863,000	11,467,000
	Total Deductions	**$320,962,000**	**$411,170,000**	**$469,497,000**
NET OPERATING REVENUE		**$ 80,232,000**	**$ 83,542,000**	**$ 89,720,000**
D.	Operating Expenses			
1.	Salaries and Wages (includes benefits)			
a.	Direct Patient Care	19,722,000	20,847,000	21,606,000
b.	Non-Patient Care	6,388,000	5,306,000	4,332,000
2.	Physician's Salaries and Wages			
3.	Supplies	9,275,000	11,046,000	12,323,000
4.	Rent			
a.	Paid to Affiliates			
b.	Paid to Non-Affiliates	1,249,000	2,069,000	2,534,000
5.	Management Fees:			
a.	Paid to Affiliates	2,481,000	1,198,000	1,025,000
b.	Paid to Non-Affiliates			
6.	Other Operating Expenses	15,336,000	18,156,000	18,600,000
	Total Operating Expenses	**$ 54,451,000**	**$ 58,622,000**	**$ 60,420,000**
E.	**Earnings Before Interest, Taxes and Depreciation**	**$ 25,781,000**	**$ 24,920,000**	**$ 29,300,000**
F.	Non-Operating Expenses			
1.	Taxes	$ 1,280,000	$ 1,472,000	$ 1,386,000
2.	Depreciation	3,584,000	3,992,000	4,286,000
3.	Interest	667,000	16,000	85,000
4.	Other Non-Operating Expenses	5,701,000	6,052,000	5,929,000
	Total Non-Operating Expenses	**$ 11,232,000**	**$ 11,532,000**	**$ 11,686,000**
NET INCOME (LOSS)		**$ 14,549,000**	**$ 13,388,000**	**$ 17,614,000**

Chart Continues Onto Next Page

Supplemental #1
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Attachment 6 – Supplemental Information

Revised CON Page 46, Hospital-wide Projected Data Chart

Supplemental #1
January 25, 2018
1:42 PM X Total Facility
□ Project Only

PROJECTED DATA CHART

Give information for the two (2) years following the completion of this proposal. The fiscal year begins in **January** (Month).

		Year 1	Year 2
A.	Utilization Data (**Discharges/Patient Days**)	4,523/22,128	4,700/22,996
B.	Revenue from Services to Patients		
1.	Inpatient Services	$164,702,000	$171,159,000
2.	Outpatient Services	362,914,000	377,143,000
3.	Emergency Services	74,866,000	77,801,000
4.	Other Operating Revenue (Specify)_____	1,444,000	1,501,000
	Gross Operating Revenue	**$603,926,000**	**$627,604,000**
C	Deductions from Gross Operating Revenue		
1.	Contractual Adjustments	$494,188,000	$513,564,000
2.	Provision for Charity Care	461,000	479,000
3.	Provisions for Bad Debt	12,384,000	12,869,000
	Total Deductions	**$507,033,000**	**$526,912,000**
NET OPERATING REVENUE		**$ 96,893,000**	**$100,692,000**
D.	Operating Expenses		
1.	Salaries and Wages *(includes Benefits)*		
a.	Direct Patient Care	23,333,000	24,248,000
b.	Non-Patient Care	4,678,000	4,861,000
2.	Physician's Salaries and Wages		
3.	Supplies	13,308,000	13,830,000
4.	Rent		
a.	Paid to Affiliates		
b.	Paid to Non-Affiliates	2,737,000	2,844,000
5.	Management Fees:		
a.	Paid to Affiliates		
b.	Paid to Non-Affiliates	1,107,000	1,151,000
6.	Other Operating Expenses	20,195,000	21,043,000
	Total Operating Expenses	**$ 65,358,000**	**$ 67,977,000**
E.	**Earnings Before Interest, Taxes and Depreciation**	**$ 31,535,000**	**$ 32,715,000**
F.	Non-Operating Expenses		
1.	Taxes	$ 1,414,000	$ 1,428,000
2.	Depreciation	4,686,000	4,886,000
3.	Interest	86,000	87,000
4.	Other Non-Operating Expenses	6,403,000	6,655,000
	Total Non-Operating Expenses	**$ 12,589,000**	**$ 13,056,000**
NET INCOME (LOSS)		**$ 18,946,000**	**$ 19,659,000**

Chart Continues Onto Next Page

Supplemental #1
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Attachment 7 – Supplemental Information

Revised CON Page 48-49, Project-Specific Projected Data Chart

NET INCOME (LOSS)	$	779,300	$	1,338,000
G. Other Deductions				
1. Estimated Annual Principal Debt Repayment	$		$	
2. Annual Capital Expenditure				
Total Other Deductions	$		$	
NET BALANCE	$	779,800	$	1,338,000
DEPRECIATION	$	434,400	$	434,400
FREE CASH FLOW (Net Balance + Depreciation)	$	1,214,200	$	1,772,400

☐ Total Facility

X Project Only

PROJECTED DATA CHART-OTHER EXPENSES

OTHER EXPENSES CATEGORIES	Year 1	Year 2
1. Repair and Maintenance	$ 84,800	$ 84,800
2. Outside Services	30,000	30,000
4. Contingency	9,500	9,700
Total Other Expenses	$ 124,300	$ 124,500

Supplemental #1
January 25, 2018
1:42 PM ☐ Total Facility
X Project Only

PROJECTED DATA CHART

Give information for the two (2) years following the completion of this proposal. The fiscal year begins in **January** (Month).

		Year 1	Year 2
A.	Utilization Data (Procedures – Cardiac Catheterizations)	406	507
B.	Revenue from Services to Patients		
1.	Inpatient Services	$ 7,516,100	$ 9,655,200
2.	Outpatient Services	10,660,200	13,716,300
3.	Emergency Services		
4.	Other Operating Revenue (Specify)_____		
	Gross Operating Revenue	**$ 18,176,300**	**$ 23,371,500**
C	Deductions from Gross Operating Revenue		
1.	Contractual Adjustments	$ 14,541,000	$ 18,697,200
2.	Provision for Charity Care	90,900	116,900
3.	Provisions for Bad Debt	454,400	584,300
	Total Deductions	**$ 15,086,300**	**$ 19,398,400**
NET OPERATING REVENUE		**$ 3,090,000**	**$ 3,973,100**
D.	Operating Expenses		
1.	Salaries and Wages *(includes Benefits)*		
a.	Direct Patient Care	402,600	414,600
b.	Non-Patient Care		
2.	Physician's Salaries and Wages		
3.	Supplies	1,056,400	1,358,400
4.	Rent		
a.	Paid to Affiliates		
b.	Paid to Non-Affiliates	250,000	250,000
5.	Management Fees:		
a.	Paid to Affiliates		
b.	Paid to Non-Affiliates		
6.	Other Operating Expenses	124,300	124,500
	Total Operating Expenses	**$ 1,833,300**	**$ 2,147,500**
E.	**Earnings Before Interest, Taxes and Depreciation**	**$ 1,256,700**	**$ 1,825,600**
F.	Non-Operating Expenses		
1.	Taxes	$ 43,000	$ 53,200
2.	Depreciation	434,400	434,400
3.	Interest		
4.	Other Non-Operating Expenses		
	Total Non-Operating Expenses	$ 477,400	$ 487,600
NET INCOME (LOSS)		**$ 779,300**	**$ 1,338,000**

Chart Continues Onto Next Page

Supplemental #2 (Original)

Metro Knoxville HMA, LLC dba Tennova Healthcare, North Knoxville Medical Center

CN1801-001

Supplemental #2

Tennova Healthcare

Supplemental Information #2
Certificate of Need Application CN1801-001
Metro Knoxville HMA, LLC d/b/a Tennova Healthcare – NKMC
Expansion of cardiac cath services to include interventional (therapeutic) cardiac cath services

January 30, 2018

Please see the following Supplemental Information #2 provided in response to the January 26, 2018 letter from Phillip M. Earhart, HSD Examiner, requesting clarification or additional information on the Certificate of Need Application CN1801-001 submitted to HSDA on January 10, 2018 and the previous Supplemental Information #1 submitted January 25th.

1. **Section A, Executive Summary, Item B.4 (Orderly Development) Page 7**

   The letters of support from cardiologists supporting the addition of interventional cardiac procedures at NKMC are noted. However, the signatures are not legible in the last two letters provided in the supplemental. Please provide revised copies of those two letters which clearly identifies the names of the signing physicians.

RESPONSE: The revised copies of the last two letters of support previously submitted are included in Attachment 1.

2. **Section B, Need, Item E, Page 36**

   Table 11 on page 36 indicating the service area cardiac cath lab utilization is noted. However, please clarify the reason(s) the 2016 Joint Annual Reports indicates 4 cath labs instead of 1 for Tennova Healthcare Turkey Creek Medical Center as reflected in table 11. If there is an error in the number of labs reported in table 11, please adjust the utilization in table 11 and submit a replacement page 36 (labeled as 36R).

   The explanation of the discrepancy of the cardiac cath equivalents total of 9,088 for Tennova Healthcare (PRMC) in table 11 to the reported cardiac cath utilization of 3,383 in the 2016 Joint Annual Report for PRMC is noted. However, the variance between these two numbers is greater than 5,000 procedures, whereas any other facility in the service area, the greatest variation was a little over 2,000. Additionally, if the CPT Code definition of cardiac catheterization now aligns with the categories in both the 2016 JAR and the Cardiac Catheterization Criteria, any of the "other heart procedures" referenced from earlier JARS would not be counted if they did not fall in to the categories of diagnostic/therapeutic cardiac catheterization, diagnostic/therapeutic peripheral vascular catheterization, or diagnostic/therapeutic electrophysiological studies. Even though one would expect to see differences in the data between the two different sources of discharge data vs. JAR self-reported data, it doesn't seem the variance should be as wide as what the applicant is reporting for Physicians Regional Medical Center. Is it possible that the PRMC cardiac cath equivalents total of 9,088 for PRMC included utilization from Tennova Turkey Creek and NKMC which appears to share the same license number? Please discuss in more detail.

RESPONSE: Please see the table below, and the Replacement page 36 in Attachment 2, reflecting the four (4) cath labs at Tennova Healthcare Turkey Creek Medical Center. As explained below, the utilization data for Tennova Healthcare's three Knoxville facilities (PRMC, Turkey Creek, and NKMC) is correct; thus, no changes were made to the reported hospitals' utilization data. The only change to Table 11 is the correction in the number of cath labs at Turkey Creek (from 1 to 4), which results in an overall service area utilization change from 123.2% to 109.5% - a number well in excess of the 70% utilization threshold.

Supplemental #2
January 30, 2018
11:05 A.M.

NKMC has confirmed that the utilization data for PRMC does not include data for Turkey Creek or NKMC because each hospital's electronic patient-level data is submitted using the Centers for Medicare & Medicaid ("CMS") Uniform Bill ("UB-04") and includes the submitting hospital's unique State Identification Number. Thus, there is no duplication in the electronically submitted data by the Tennova hospitals.

The explanation for the discrepancy between the two reports (2016 Joint Annual Report and Tennessee Department of Health ("TDOH") cardiac cath calculations is due to the differences in reported data, and is based *primarily on the use of the highest weighted category in the TDOH's analyses*. For an advanced cardiology provider such as PRMC that has a high volume of complex interventional cases (with for example, an average of 3 procedure codes per therapeutic cardiac cath patient and 5-6 procedure codes per therapeutic peripheral vascular cath patient), the difference in the two reports is expected and reasonable. Notably, NKMC discussed the discrepancies between the two reports with staff at the Tennessee Department of Health, Division of Policy, Planning and Assessment to ensure that the data reported in the respective reports are accurate. Both John Brown, Statistical Research Specialist and Trent Sansing, Manager of JAR Data Collection Unit are confident that the calculated utilizations presented in the CON application are accurate, and the differences in the JAR and the utilization data are reasonable.

The replacement Table 11 reflects the TDOH's prior analyses with the correction to the number of Turkey Creek cath labs. NKMC has also provided TDOH staff members with the correction to the number of labs at Turkey Creek so that they are aware of the change.

Table 11 - Revised
Service Area Cardiac Cath Lab Utilization

Service Area Hospital	Cardiac Cath Equivalents*			Cath Labs	Utilization
	Diagnostic	Therapeutic	Total		
Methodist Medical Center of Oak Ridge	4,316.0	3,187.0	7,503.0	2	187.6%
Tennova Healthcare - LaFollette Medical Center	3.0	21.0	24.0	0	N/A
Tennova Healthcare - Newport Medical Center	0.0	6.0	6.0	0	N/A
Morristown - Hamblen Healthcare System	1,815.0	1,462.0	3,277.0	2	81.9%
Lakeway Regional Hospital	34.5	6.0	40.5	0	N/A
Tennova Healthcare - Jefferson Memorial Hospital	32.0	127.0	159.0	0	N/A
Fort Sanders Regional Medical Center	3,368.0	2,868.0	6,236.0	4	78.0%
Tennova Healthcare (PRMC)	3,716.0	5,372.0	9,088.0	3	151.5%
University of Tennessee Memorial Hospital	7,098.0	7,342.0	14,440.0	5	144.4%
Parkwest Medical Center	8,226.5	5,810.0	14,036.5	5	140.4%
Tennova Healthcare - Turkey Creek Med Center**	1,567.0	2,160.0	3,727.0	4	46.6%
Tennova Healthcare - North Knoxville Med Center	39.0	102.0	141.0	1	7.1%
LeConte Medical Center	437.5	11.0	448.5	1	22.4%
Total (Revised # of Labs)	**30,652.5**	**28,474.0**	**59,126.5**	**27**	**109.5%**
Capacity per Lab (defined by Standards)				2,000	
Total Capacity in Service Area				54,000	
Percent of Existing Services to Capacity (Revised)				**109.5%**	

Sources & Notes:
Tennessee Department of Health, Division of Policy, Planning and Assessment, Office of Healthcare Facility Statistics; Certificate of Need Cardiac Cath Calculations based on 2009 State Health Plan Standards.
*Highest weighted cardiac cath services provided based on TDH Hospital Discharge Data System 2013-2015 recorded procedure level codes (CPT) and service categories.
**Correction to Turkey Creek cath labs from 1 lab to 4 labs, comprised of 1 dedicated EP Lab & 3 multipurpose labs.

Supplemental #2
January 30, 2018
11:05 A.M.

3. **Section B, Contribution to Orderly Development, Item E.2 Page 57**

   Please provide a copy of the press release from The United State Department of Justice dated Monday, August 4, 2014 (Press Release Number 14-822) that provides an overview of the allegations and resulting corporate integrity agreement referenced in the application. The press release may be found at the following web-site:
   https://www.justice.gov/opa/pr/community-health-systems-inc-pay-9815-million-resolve-false-claims-act-allegations

RESPONSE: Please see Attachment 3.

Supplemental #2
January 30, 2018
11:05 A.M.

AFFIDAVIT

STATE OF TENNESSEE

COUNTY OF WILLIAMSON

NAME OF FACILITY: NORTH KNOXVILLE MEDICAL CENTER

I, Martin G. Schweinhart, President of Metro Knoxville HMA, LLC, after first being duly sworn, state under oath that I am the applicant named in this Certificate of Need application or the lawful agent thereof, that I have reviewed all of the supplemental information submitted herewith, and that it is true, accurate, and complete.

Signature/Title

Sworn to and subscribed before me, a Notary Public, this the 29th day of January, 2018, witness my hand at office in the County of Williamson, State of Tennessee.

NOTARY PUBLIC

My commission expires 9-16, 2019.

MARY ANN ECKMAN
STATE OF TENNESSEE NOTARY PUBLIC
WILLIAMSON COUNTY
My Commission Expires 09-16-2019

HF-0043

Revised 7/02

Supplemental #2
January 30, 2018
11:05 A.M.

Attachment 1 – Supplemental Information #2

Requested Physician Letters of Support with Name Added

Supplemental #2
January 30, 2018
11:05 A.M.

East Tennessee Heart Consultants

900 East Oak Hill Avenue
Suite 500 & 600
Knoxville, TN 37917
Phone: (865) 647-5800– Fax: (865) 525-0245

Y.N. Akhtar, M.D.
R. Hottigoudar, M.D.
B.I. Michelson, MD., F.A.C.C
M. Barb, PA-C
F. A. Chaudhry, M.D., M.S., F.A.C.C.
O.I. Irivbogbe, M.D.
R.E. Rotondo, M.D., F.A.C.C.
E. Dickenson, PA-C
D.A. Cox, M.D., F.A.C.C.
R.O. Martin, M.D., F.A.C.C.
J.A. Ternay, M.D., F.A.C.C.
C.T. Doiron, M.D., F.A.C.C.
K.W. McCoy, M.D., F.A.C.C.
C.B. Treasure II, M.D., F.A.C.C.

January 24, 2018

Phillip M. Earhart, HSD Examiner
Tennessee Health Services and Development Agency
Andrew Jackson Building, 9th Floor
502 Deaderick Street
Nashville, TN 37243

RE: Certificate of Need Application CN1801-001
Metro Knoxville HMA, LLC d/b/a Tennova Healthcare – North Knoxville Medical Center
Expansion of existing diagnostic cardiac cath services to include interventional (therapeutic) cardiac cath services

Dear Mr. Earhart,

I am writing this letter to show my support for the aforementioned project at North Knoxville Medical Center (NKMC). I am a Board-certified Non-Interventionalist Cardiologist with 24 years of experience working in and caring for patients in the greater Knoxville area. I intend to provide non-interventional cardiac cath services at NKMC upon approval of this project.

The location of NKMC provides a more convenient, and accessible, point of service for patients in need of interventional cardiac procedures. The approval to provide therapeutic cardiac cath services in NKMC's existing diagnostic cardiac cath lab will provide a more immediately accessible point for patients to receive intervention, which will ultimately enhance patient's quality of care since 'time is muscle'. As the provision of therapeutic cardiac caths without on-site OHS backup has become an accepted standard within the medical community, the ability to provide this care in a timelier manner and without the additional cost of transportation offers significant benefit to cardiac patients.

NKMC transfers a substantial number of ED and inpatients annually from its hospital who would benefit from the proposed interventional cardiac cath service. The high number of patients who must be transported to another facility for therapeutic cath services reflects the reliance of service area patients on NKMC for inpatient, outpatient, and emergency services. Moreover, the proposed Project requires a limited investment in additional equipment and no facility renovation or expansion that would require new construction.

As a physician currently on the staff of NKMC, I can unequivocally state this project would provide tremendous benefit to patients in the service area. Thank you for your consideration.

Regards,

Kyle McCoy, MD, FACC

Tennova Healthcare

Supplemental #2
January 30, 2018
11:05 A.M.

East Tennessee Heart Consultants

900 East Oak Hill Avenue
Suite 500 & 600
Knoxville, TN 37917
Phone: (865) 647-5800– Fax: (865) 525-0245

Y.N. Akhtar, M.D.
R. Hottigoudar, M.D.
B.I. Michelson, MD., F.A.C.C
M. Barb, PA-C
F. A. Chaudhry, M.D., M.S., F.A.C.C.
O.I. Irivbogbe, M.D.
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E. Dickenson, PA-C
D.A. Cox, M.D., F.A.C.C.
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C.T. Doiron, M.D., F.A.C.C.
K.W. McCoy, M.D., F.A.C.C.
C.B. Treasure II, M.D., F.A.C.C.

January 24, 2018

Phillip M. Earhart, HSD Examiner
Tennessee Health Services and Development Agency
Andrew Jackson Building, 9th Floor
502 Deaderick Street
Nashville, TN 37243

RE: Certificate of Need Application CN1801-001
Metro Knoxville HMA, LLC d/b/a Tennova Healthcare – North Knoxville Medical Center
Expansion of existing diagnostic cardiac cath services to include interventional (therapeutic) cardiac cath services

Dear Mr. Earhart,

I am writing this letter to show my support for the aforementioned project at North Knoxville Medical Center (NKMC). I am a Board-certified Interventionalist Cardiologist with 22 of experience working in and caring for patients in the greater Knoxville area. I intend to provide interventional cardiac cath services at NKMC upon approval of this project.

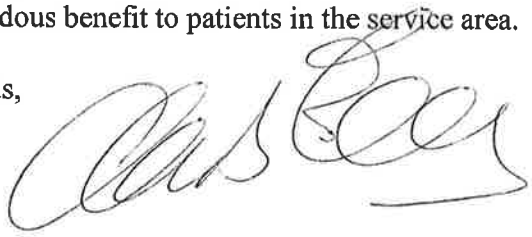
The location of NKMC provides a more convenient, and accessible, point of service for patients in need of interventional cardiac procedures. The approval to provide therapeutic cardiac cath services in NKMC's existing diagnostic cardiac cath lab will provide a more immediately accessible point for patients to receive intervention, which will ultimately enhance patient's quality of care since 'time is muscle'. As the provision of therapeutic cardiac caths without on-site OHS backup has become an accepted standard within the medical community, the ability to provide this care in a timelier manner and without the additional cost of transportation offers significant benefit to cardiac patients.

NKMC transfers a substantial number of ED and inpatients annually from its hospital who would benefit from the proposed interventional cardiac cath service. The high number of patients who must be transported to another facility for therapeutic cath services reflects the reliance of service area patients on NKMC for inpatient, outpatient, and emergency services. Moreover, the proposed Project requires a limited investment in additional equipment and no facility renovation or expansion that would require new construction.

Tennova Healthcare

As a physician currently on the staff of NKMC, I can unequivocally state this project would provide tremendous benefit to patients in the service area. Thank you for your consideration.

Regards,



Charles Treasure, MD, FACC

Supplemental #2
January 30, 2018
11:05 A.M.

Attachment 2 – Supplemental Information #2

CON Replacement Page 36 with Revised Table 11

With many of these residents living in rural communities, they are accessing care at NKMC which is generally a significant distance from their home. Having to transport these patient even further from home to another hospital for therapeutic cardiac cath services creates additional stress and challenges for both the patient and family members. The proposed initiation of therapeutic cath services at NKMC takes into account the special needs of the service area population and provides them with the most timely, efficient and effective approach to receiving interventional cardiac care at a hospital that they currently rely on for health care services.

E. Describe the existing and approved but unimplemented services of similar healthcare providers in the service area. Include utilization and/or occupancy trends for each of the most recent three years of data available for this type of project. List each provider and its utilization and/or occupancy individually. Inpatient bed projects must include the following data: Admissions or discharges, patient days, average length of stay, and occupancy. Other projects should use the most appropriate measures, e.g., cases, procedures, visits, admissions, etc. This doesn't apply to projects that are solely relocating a service.

RESPONSE: The 11-county service area aggregate 3-year utilization for all existing and approved providers is 109.5%, which is significantly greater than 70% utilization threshold indicating that need exists in the service area. There are currently no approved but unimplemented cardiac cath services in the service area.

For ease of review, the following table provides the utilization of each provider in the service area for the most recent three years of data available. Please refer to Attachment B-Need-A.8 for the detailed Cardiac Cath Calculations from the Tennessee Department of Health, Division of Policy, Planning and Assessment.

Table 11 - Revised
Service Area Cardiac Cath Lab Utilization

Service Area Hospital	Cardiac Cath Equivalents*			Cath Labs	Utilization
	Diagnostic	Therapeutic	Total		
Methodist Medical Center of Oak Ridge	4,316.0	3,187.0	7,503.0	2	187.6%
Tennova Healthcare - LaFollette Medical Center	3.0	21.0	24.0	0	N/A
Tennova Healthcare - Newport Medical Center	0.0	6.0	6.0	0	N/A
Morristown - Hamblen Healthcare System	1,815.0	1,462.0	3,277.0	2	81.9%
Lakeway Regional Hospital	34.5	6.0	40.5	0	N/A
Tennova Healthcare - Jefferson Memorial Hospital	32.0	127.0	159.0	0	N/A
Fort Sanders Regional Medical Center	3,368.0	2,868.0	6,236.0	4	78.0%
Tennova Healthcare (PRMC)	3,716.0	5,372.0	9,088.0	3	151.5%
University of Tennessee Memorial Hospital	7,098.0	7,342.0	14,440.0	5	144.4%
Parkwest Medical Center	8,226.5	5,810.0	14,036.5	5	140.4%
Tennova Healthcare - Turkey Creek Medical Center**	1,567.0	2,160.0	3,727.0	4	46.6%
Tennova Healthcare - North Knoxville Medical Center	39.0	102.0	141.0	1	7.1%
LeConte Medical Center	437.5	11.0	448.5	1	22.4%
Total (Revised # of Labs)	**30,652.5**	**28,474.0**	**59,126.5**	**27**	**109.5%**
Capacity per Lab (defined by Standards)				2,000	
Total Capacity in Service Area				54,000	
Percent of Existing Services to Capacity				**109.5%**	

Sources & Notes:
Tennessee Department of Health ("TDH"), Division of Policy, Planning and Assessment, Office of Healthcare Facility Statistics; Certificate of Need Cardiac Cath Calculations based on 2009 State Health Plan Standards.
*Highest weighted cardiac cath services provided based on TDH Hospital Discharge Data System 2013-2015 recorded procedure level codes (CPT) and service categories.
**Correction to Turkey Creek cath labs from 1 lab to 4 labs, comprised of 1 dedicated EP Lab & 3 multipurpose labs.

Supplemental #2
January 30, 2018
11:05 A.M.

Attachment 3 – Supplemental Information #2

Press Release from the U.S. Department of Justice

JUSTICE NEWS

Department of Justice

Office of Public Affairs

FOR IMMEDIATE RELEASE

Monday, August 4, 2014

Community Health Systems Inc. to Pay $98.15 Million to Resolve False Claims Act Allegations

The Justice Department announced today that Community Health Systems Inc. (CHS), the nation's largest operator of acute care hospitals, has agreed to pay $98.15 million to resolve multiple lawsuits alleging that the company knowingly billed government health care programs for inpatient services that should have been billed as outpatient or observation services. The settlement also resolves allegations that one of the company's affiliated hospitals, Laredo Medical Center (LMC), improperly billed the Medicare program for certain inpatient procedures and for services rendered to patients referred in violation of the Physician Self-Referral Law, commonly known as the Stark Law. CHS is based in Franklin, Tennessee, and has 206 affiliated hospitals in 29 states.

"Charging the government for higher cost inpatient services that patients do not need wastes the country's health care resources," said Assistant Attorney General Stuart F. Delery for the Justice Department's Civil Division. "In addition, providing physicians with financial incentives to refer patients compromises medical judgment and risks depriving patients of the most appropriate health care available. This department will continue its work to stop this type of abuse of the nation's health care resources and to ensure patients receive the most appropriate care."

The United States alleged that from 2005 through 2010, CHS engaged in a deliberate corporate-driven scheme to increase inpatient admissions of Medicare, Medicaid and the Department of Defense's (DOD) TRICARE program beneficiaries over the age of 65 who originally presented to the emergency departments at 119 CHS hospitals. The government further alleged that the inpatient admission of these beneficiaries was not medically necessary, and that the care needed by, and provided to, these beneficiaries should have been provided in a less costly outpatient or observation setting. CHS agreed to pay $89.15 million to resolve these allegations. The settlement does not include hospitals that CHS acquired from Health Management Associates (HMA) in January 2014.

In addition, the government alleged that from 2005 through 2010, one of CHS's affiliated hospitals, LMC in Laredo, Texas, presented false claims to the Medicare program for certain cardiac and hemodialysis procedures performed on a higher cost inpatient basis that should have been performed on a lower cost outpatient basis. The government also alleged that from 2007 through 2012, LMC improperly billed Medicare for services referred to LMC by a physician who was offered a medical directorship at LMC, in

violation of the Stark Law. The Stark Law prohibits a hospital from submitting claims for patient referrals made by a physician with whom the hospital has an improper financial relationship, and is intended to ensure that a physician's medical judgment is not compromised by improper financial incentives, and is instead based on the best interests of the patient. CHS agreed to pay $9 million to resolve the allegations involving LMC.

"This is the largest False Claims Act settlement in this district and it reaffirms this office's commitment to investigate and pursue health care fraud that compromises the integrity of our health care system," said U.S. Attorney David Rivera for the Middle District of Tennessee. "This office is committed to ensuring that all companies billing government healthcare programs are responsible corporate citizens and that hospital providers do not engage in schemes to increase medically unnecessary in-patient admissions of government healthcare program beneficiaries in order to increase profits."

"This settlement demonstrates our commitment to working with our law enforcement partners and with the Department of Justice to protect the integrity of our nation's health care system," said U.S. Attorney Kenneth Magidson of the Southern District of Texas. "Put simply, these types of fraudulent practices will not be tolerated and the investigation and resolution of such claims will continue to be a high priority of this office."

"Health care providers should make treatment decisions based on patients' medical needs, not profit margins," said U.S. Attorney Anne M. Tompkins for the Western District of North Carolina. "We will not allow this type of misconduct to compromise the integrity of our health care system."

As part of today's agreement, CHS entered into a Corporate Integrity Agreement with the U.S. Department of Health and Human Services - Office of Inspector General (HHS-OIG), requiring the company to engage in significant compliance efforts over the next five years. Under the agreement, CHS is required to retain independent review organizations to review the accuracy of the company's claims for inpatient services furnished to federal health care program beneficiaries.

"In an effort to ensure the company's fraudulent past is not its future, CHS agreed to a rigorous multi-year Corporate Integrity Agreement requiring that the company commit to compliance with the law," said Inspector General Daniel R. Levinson, of the U.S. Department of Health and Human Services. "The dedicated work of OIG's investigators, auditors, and attorneys, in concert with our law enforcement partners, has again resulted in the recovery of taxpayer dollars and better protection against fraud in the future."

The settlement resolves lawsuits filed by several whistleblowers under the *qui tam* provisions of the False Claims Act, which permit private parties to file suit on behalf of the government and obtain a portion of the government's recovery. Those relators are Kathleen Bryant, former Director of Health Information Management at CHS's Heritage Medical Center in Shelbyville, Tennessee; Rachel Bryant, former nurse at CHS's Dyersburg Hospital in Dyersburg, Tennessee; Bryan Carnithan, former Emergency Medical Services

Coordinator at CHS' Heartland Hospital in Marion, Illinois; Amy Cook-Reska, former coder for CHS' LMC in Laredo; Sheree Cook, former nurse at CHS's Heritage Medical Center in Shelbyville; James Doghramji, former internal medicine and emergency room physician at CHS's Chestnut Hill Hospital in Philadelphia; Thomas Mason, former emergency room physician at Lake Norman Regional Medical Center in Mooresville, North Carolina; Scott Plantz, former emergency room physician at CHS's Longview Regional Medical Center in Longview, Texas; and Nancy Reuille, former nurse and Supervisor of Case Management at CHS's Lutheran Hospital in Fort Wayne, Indiana. The relators' share of the settlement has not yet been determined.

This settlement illustrates the government's emphasis on combating health care fraud and marks another achievement for the Health Care Fraud Prevention and Enforcement Action Team (HEAT) initiative, which was announced in May 2009 by Attorney General Eric Holder and the Secretary of Health and Human Services. The partnership between the two departments has focused efforts to reduce and prevent Medicare and Medicaid financial fraud through enhanced cooperation. One of the most powerful tools in this effort is the False Claims Act. Since January 2009, the Justice Department has recovered a total of more than $20.2 billion through False Claims Act cases, with more than $14 billion of that amount recovered in cases involving fraud against federal health care programs.

This settlement was the result of a coordinated effort by the U.S. Attorney's Offices for the Middle District of Tennessee, Southern District of Texas, Northern and Southern Districts of Illinois, Northern District of Indiana and Western District of North Carolina; the Civil Division's Commercial Litigation Branch; HHS-OIG; DOD's Defense Health Agency - Program Integrity Office and the FBI.

The lawsuits are captioned *United States ex rel. Bryant v. Community Health Systems, Inc., et al.*, Case No. 10-2695 (S.D. Tex.); *United States ex rel. Carnithan v. Community Health Systems, Inc., et al.*, Case No. 11-cv-312 (S.D. Ill.); *United States ex rel. Cook-Reska v. Community Health Systems, Inc., et al.*, Case No. 4:09-cv01565 (S.D. Tex.); *United States ex rel. James Doghramji; Sheree Cook; and Rachel Bryant v. Community Health Systems Inc., et al.*, Case No. 3-11-cv-00442 (M.D. Tenn.); *United States ex rel. Mason v. Community Health Systems, Inc., et al.*, Case No. 3:12-cv-817 (W.D.N.C.); *United States ex rel. Plantz v. Community Health Systems, Inc., et al.*, Case No. 10C-0959 (N.D. Ill.); *United States ex rel. Reuille v. Community Health Systems Professional Services Corporation, et al.*, Case No. 1:09-cv-007RL (N.D. Ind.). The claims resolved by this agreement are allegations only and there has been no determination of liability.

Component(s):
Civil Division

Press Release Number:
14-822

Updated September 15, 2014